

Recirculated Draft Environmental Impact Report/
Supplemental Draft Environmental Impact Statement
Rio del Oro Specific Plan Project
State Clearinghouse #2003122057



Prepared for:
City of Rancho Cordova
and
U.S. Army Corps of Engineers,
Sacramento District

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April 2008

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ACRONYMS AND ABBREVIATIONS

2006 DEIR/DEIS	<i>Rio del Oro Specific Plan Project Draft Environmental Impact Report/Draft Environmental Impact Statement</i>
Aerojet	Aerojet General Corporation
Aerojet-County Agreement	<i>Agreement Between Sacramento County, The Sacramento County Water Agency, and Aerojet General Corporation with Respect to Groundwater and Related Issues within the Eastern Portion of Sacramento County</i>
af	acre-feet
afy	acre-feet per year
BACT	best available control technology
BMP	best management practices
BO	biological opinions
Cal-Am	Cal-American Water Company
CALVIN	California Value Integrated Network
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of Rancho Cordova
City General Plan	Rancho Cordova General Plan
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNPS Inventory	<i>Inventory of Rare and Endangered Vascular Plants of California</i>
CO	carbon monoxide
County	Sacramento County
CRAM	California Rapid Assessment Method
CSCGMP	Central Sacramento County Groundwater Management Plan
CVP	Central Valley Project
CWA	Clean Water Act
dBA	A-weighted decibels
dbh	diameter at breast height
DEIR	Draft Environmental Impact Report
DEIS	Draft Environmental Impact Statement
Delta	Sacramento–San Joaquin Delta
DFG	California Department of Fish and Game
DPH	California Department of Public Health

DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EIR	environmental impact report
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ESA	federal Endangered Species Act
Fazio water	Central Valley Project Water [Public Law 101-514]
FEIR	final environmental impact report
FEIS	final environmental impact statement
FRWA	Freeport Regional Water Authority
FRWP	Freeport Regional Water Project
GET	groundwater extraction and treatment
GIS	geographic information systems
gpm	gallons per minute
GSWC	Golden State Water Company
HD	High Density Alternative
IGSM	Integrated Groundwater Surface Water Model
IM	Impact Minimization Alternative
IPCC	Intergovernmental Panel on Climate Change
IS	initial study
lb/day	pounds per day
L_{eq}	equivalent noise level
LiDAR	Light Detection and Ranging
MBTA	Migratory Bird Treaty Act
MDC	McDonnell Douglas Corporation
MDC-County Agreement	<i>Agreement Between Sacramento County, The Sacramento County Water Agency, and McDonnell Douglas Corporation with Respect to Groundwater and Related Issues within the Eastern Portion of Sacramento County</i>
mgd	million-gallon-per-day
MMP	mitigation monitoring plan
MND	mitigated negative declaration
MOA	memorandum of agreement
MSA	Master Settlement Agreement
msl	mean sea level
Natomas Mutual	Natomas Central Mutual Water Company

NEPA	National Environmental Policy Act
NF	No Federal Action Alternative
NMFS	National Marine Fisheries Service
NO _x	oxides of nitrogen
NP	No Project Alternative
NPDES	National Pollutant Discharge Elimination System
NSAPP	North Service Area Pipeline Project
NWP	nationwide permit
O&M	operations and management
OCAP	Operations Criteria and Plan
PCM	parallel climate model
PL	Public Law
PM ₁₀	diameter smaller than 10 microns
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
POU	Place of Use
PP	Proposed Project Alternative
Reclamation	U.S. Bureau of Reclamation
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
RWSP	Replacement Water Supply Project
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCWA	Sacramento County Water Agency
SMAQMD	Sacramento Metropolitan Air Quality Management District
SRCSD	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Water Treatment Plant
SSCHCP	South Sacramento County Habitat Conservation Plan
SSWD	Sacramento Suburban Water District
State CEQA Guidelines	California Environmental Quality Act Guidelines
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
T-BACT	best Available Control Technology for Toxics
TNC	The Nature Conservancy
UPA	Urban Policy Area
USACE	U.S. Army Corps of Engineers

USB	Urban Services Boundary
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VELB	valley elderberry longhorn beetle
WFA	Water Forum Agreement
WSA	Water Supply Assessment
WSMP	Water Supply Master Plan
WTP	water treatment plant
WWR	watershed-to-wetland ratio
Zone 41 UWMP	<i>2005 Zone 41 Urban Water Management Plan</i>

1 INTRODUCTION

1.1 BACKGROUND AND PURPOSE OF THE RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

In December 2006, the City of Rancho Cordova (City) and the U.S. Army Corps of Engineers (USACE) published the *Rio del Oro Specific Plan Project Draft Environmental Impact Report/Draft Environmental Impact Statement* (Rio del Oro DEIR/DEIS), which is a joint document that meets the requirements of both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The City is the lead agency under CEQA, and USACE is the lead agency under NEPA. The DEIR/DEIS assessed the potential environmental impacts of implementing the proposed Rio del Oro development project. The project/action proposes a specific plan that would permit a mixed-use development on approximately 3,828 acres in Rancho Cordova, California, in eastern Sacramento County. Elliott Homes and GenCorp are co-project applicants requesting overall development entitlements from the City. Elliott Homes is seeking specific development entitlements on approximately 1,100 acres (e.g., tentative subdivision maps and other specific entitlements for immediate, short-term development) as part of the project. GenCorp is seeking overall development entitlements on the remaining 2,728 acres, but has not proposed tentative subdivision maps or other specific development entitlements necessary for immediate or short-term development as part of this proposal. Both applicants are requesting authorization of a Department of the Army permit under Section 404 of the Clean Water Act for impacts on approximately 27.9 acres of waters of the United States, as well as other federal authorizations (e.g., Section 7 of the federal Endangered Species Act and Section 106 of the National Historic Preservation Act) as part of the proposed project.

Buildout of the project would be split into five phases and is anticipated to occur over a 25- to 30-year period. The project provides for construction of approximately 11,601 residential dwelling units in three residential land use classifications on 1,920 acres. Commercial land uses would include Village Commercial, Local Town Center, and Regional Town Center (totaling 133 acres of shopping centers); Business Park (86 acres); and Industrial Park (282 acres). Various neighborhood parks totaling 63 acres would be developed. There would also be 54 acres of Private Recreation land uses, 9.5 acres of Public/Quasi Public Use, 44 acres of Landscape Corridor, and 50 acres of Greenbelt land uses. Two elderberry preserve areas, consisting of 10 acres and 14 acres, respectively, have been designated on the project site in areas with the greatest concentration of elderberry shrubs. In addition to 155 acres of drainage parkways, 39 acres of stormwater detention basins would be created in three separate locations. A 507-acre wetland preserve area is also proposed in the southern portion of the project site. Designated school uses include a combined high school/middle school (78 acres) with an adjacent 87-acre community park, a separate middle school (20 acres), and six elementary schools (54 acres). The project also includes new water, sewer, electrical, natural gas, and communications services. Approximately 227 acres of roadways and associated landscaping, along with a network of bicycle and pedestrian trails, would be constructed. In addition, the project includes various improvements to on- and off-site infrastructure and roadways to support the project.

The DEIR/DEIS was circulated for public review and comment for a period of 60 days that ended on February 5, 2007. At the end of the public review period, comments were received on the DEIR/DEIS. The City and USACE reviewed those comments to identify specific environmental concerns and determine whether any additional environmental analysis would be required to respond to issues raised in the comments. The City and USACE subsequently determined that the biology and water-supply portions of the DEIR/DEIS should be recirculated, as discussed below.

1.1.1 RECIRCULATION OF THE DEIR PURSUANT TO CEQA

The recirculation of an environmental impact report (EIR) is governed by Section 21092.1 of the Public Resources Code. This section states that:

When significant new information is added to an environmental impact report after notice has been given pursuant to Section 21092 and consultation has occurred pursuant to Sections 21104 and 21153, but prior to certification, the public agency shall give notice again pursuant to Section 21092, and consult again pursuant to Sections 21104 and 21153 before certifying the environmental impact report.

Significant new information is defined in Section 15088.5(a) of the State CEQA Guidelines:

As used in this section, the term “information” can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement.

“Significant new information” requiring recirculation includes, for example, a disclosure showing that:

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.*
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.*
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.*
- (4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.*

1.1.2 CIRCULATION OF A SUPPLEMENTAL EIS PURSUANT TO NEPA

The Council on Environmental Quality (CEQ) Guidelines require a supplemental environmental impact statement (EIS) when:

- ▶ *The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or,*
- ▶ *There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, or,*
- ▶ *When the agency determines that the purposes of NEPA will be furthered by doing so (40 Code of Federal Regulations [CFR] Section 1502.9[c]).*

The regulations governing preparation of a supplemental EIS function to maintain a transparent record of the information supporting a lead agency’s decision. The CEQ regulations defining NEPA’s purpose state that “NEPA procedures must insure that environmental information is available to public officials and citizens before

decisions are made and before actions are taken” (40 CFR Section 1500.1[b]). This public and agency review of NEPA defines the purposes of the statute for application of 40 CFR Section 1502.9(c).

1.1.3 RESPONSES TO COMMENTS ON THE DEIR/DEIS

As required by Section 15088 of the State CEQA Guidelines, the City and USACE will evaluate and respond to all comments that have been received on the 2006 DEIR/DEIS, and any new comments that are received on the sections included in the Recirculated DEIR/Supplemental DEIS. The City and USACE are required to respond only to comments on the Recirculated DEIR/Supplemental DEIS that relate to the areas of analysis in the recirculated document: biology and water supply. All comments and responses will be included in the final environmental impact report (FEIR)/final environmental impact statement (FEIS).

1.2 CONTENT OF THE RECIRCULATED DEIR/SUPPLEMENTAL DEIS

This Recirculated DEIR/Supplemental DEIS includes a revised water-supply analysis that describes the various sources of water for the project, including short-term sources for development Phase 1 and long-term water supplies for all phases of development (development phases 1–5) and impacts from providing water to the project. The revised water-supply analysis addresses the elements set forth in the case of *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal. 4th 412 (2007), which was decided after the 2006 DEIR/DEIS was released. These elements include the reasonable likelihood of the water sources proving available; identification and quantification of water demand from project and cumulative development; reasonable likelihood of identified water supply meeting the demands of project and cumulative development; analysis of alternative sources of water and project contingencies (including curtailment) if water-supply sources are not reasonably likely; and impacts of water-supply infrastructure. The revised water-supply analysis includes consideration of potentially significant impacts that could result from constructing a new water conveyance pipeline and booster pump station, as well as potentially significant impacts that could occur from curtailment of development. These impacts were not discussed as part of the previously released 2006 DEIR/DEIS.

The revised water-supply analysis contains “significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts under the NEPA process” (40 CFR Section 1502.9[c]). Because the revised water-supply analysis contains a new in-depth discussion of water supply and certainty, this information forms part of the record supporting decision making under NEPA. Accordingly, this record should be made public because per the goals of NEPA as discussed above and at 40 CFR Section 1500.1(b).

The Recirculated DEIR/Supplemental DEIS also contains a revised biological resources section and additional analysis of project consistency with the biological resources goals in the City’s general plan. Although this analysis does not necessarily meet the CEQA standards for recirculation, the City wishes to provide the public with an opportunity to review and comment on this new information and analysis. The revised biological resources analysis also incorporates information that responds to comments raised during the DEIR/DEIS public review period to ensure that the analysis considers significant, relevant public comments. Additionally, this section contains new information related to additional biological resource studies that have been performed by the applicants since the DEIR/DEIS was circulated, and some of the mitigation measures have been expanded or clarified. The expanded mitigation measures do not result in new significant impacts.

Consistent with the requirements of Section 15088.5(c) of the State CEQA Guidelines, this Recirculated DEIR/Supplemental DEIS contains only those sections of the previously released 2006 DEIR/DEIS in which significant new information is provided (i.e., biological resources and water supply), and associated information. The Recirculated DEIR/Supplemental DEIS consists of the chapters and sections described below.

Chapter 1, “Introduction”: Chapter 1 describes the purpose and organization of the Recirculated DEIR/Supplemental DEIS.

Executive Summary, Table ES-1: The table summarizing the impacts and mitigation measures has been revised to reflect changes made to the biological resources and water-supply sections.

Section 3.5, “Utilities and Service Systems—Water Supply”: Only the water-supply portion of this section is being recirculated/supplemented.

Section 3.10, “Biological Resources”: This section updates the biological resources section, as described above.

Chapter 5, “References”: This chapter sets forth a comprehensive listing of all sources of information used in the preparation of the Recirculated DEIR/Supplemental DEIS.

Chapter 6, “Report Preparers”: This chapter identifies the authors and other preparers of the Recirculated DEIR/Supplemental DEIS.

1.3 RELATIONSHIP TO THE DEIR/DEIS

Consistent with the requirements of the CEQA guidelines and regulations, this Recirculated DEIR/Supplemental DEIS is being made available on April 15, 2008, for a CEQA public review period of 45 days. The CEQA public-review period ends on May 30, 2008. During this period, the general public, agencies, and organizations may submit written comments on the Recirculated DEIR/Supplemental DEIS to the lead agencies as follows:

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Consistent with the requirements of the NEPA guidelines and regulations, the Recirculated DEIR/Supplemental DEIS will be made available for a 60-day NEPA public review period that will start immediately following publication of the Notice of Intent in the *Federal Register*.

Pursuant to procedures set forth in Section 15088.5(f)(2) of the State CEQA Guidelines, reviewers should limit their comments to the materials contained in this Recirculated DEIR/Supplemental DEIS. The City and USACE are not required to respond to comments that do not relate to materials contained in this Recirculated DEIR/Supplemental DEIS.

As required under Sections 15087 and 15088.5(d) of the State CEQA Guidelines, the City has sent a notice of availability to all those who submitted comments on the DEIR, and to all organizations and members of the public who were on the City’s distribution list for the DEIR. As required under NEPA, USACE has also published a notice of availability in the *Federal Register*.

After close of the comment period, the City and USACE will consider all comments received on this Recirculated DEIR/Supplemental DEIS, prepare responses as required, and prepare the FEIR/FEIS. The FEIR/FEIS will consist of comments on the previously released 2006 DEIR/DEIS, comments on the Recirculated DEIR/

Supplemental DEIS, responses to comments, and any text changes, and will be circulated for a period of 30 days pursuant to NEPA regulations. The EIR will be considered by the City Council for certification if it is determined that the EIR has been completed in compliance with CEQA. Similarly, the EIS will be considered by USACE for adoption if it is determined that the EIS has been prepared in compliance with NEPA. After the EIR is certified, the City Council will consider the project for approval. After the EIS is adopted, USACE will consider the proposed project for approval, and will publish a Record of Decision explaining the course of action it has chosen to pursue.

**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
3.5 UTILITIES AND SERVICE SYSTEMS—WATER SUPPLY					
Program Level					
3.5-1: Need for Initial Water Supplies for Development Phase 1A. Project implementation would result in a need for an initial water supply to the project site for development Phase 1A until the SCWA facilities (the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.	Direct & LTS, No Indirect	No Direct, No Indirect			
PP, HD, IM, NF, NP: No mitigation measures are required.					
3.5-2: Need for Initial Water Supplies for the Remaining Phase 1 Development. Project implementation would result in a need for an initial water supply to the project site for the remaining Phase 1 development until the SCWA facilities (Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.	Direct & S, No Indirect	No Direct, No Indirect			
PP, HD, IM, NF: Mitigation Measure 3.5-2: Submit Proof of Water Supply Availability					
The following shall be required for all legislative-level development projects, including community plans, general plan amendments, specific plans, rezonings, and other plan-level discretionary entitlements, but excluding tentative subdivisions maps, parcel maps, use permits, and other project-specific discretionary land-use entitlements or approvals:					
<ul style="list-style-type: none"> ► Proposed water supplies and delivery systems shall be identified at the time of development project approval to the satisfaction of the City. The water agency or company proposing to provide service (collectively referred to as “water provider”) to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project. The project applicant or water provider shall make a factual showing prior to project approval that the water provider or providers proposing to serve the development project has or have legal entitlements to the identified water supplies or that such entitlements are reasonably foreseeable by the time of subsequent, project-specific discretionary land-use entitlements or approvals. This factual showing shall also demonstrate that the water provider’s identified water supply is reasonably reliable over the long term (at least 20 years) under normal, single-dry and multiple-dry years. 					
The following shall be required for project-specific discretionary land-use entitlements and approvals including, but not limited to, all tentative subdivision maps, parcel maps, or use permits:					

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<ul style="list-style-type: none"> ▶ An assured water supply and delivery system shall be available or reasonably foreseeable at the time of project approval. The water agency providing service to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project. ▶ The project applicant, water agency (or agencies), or water company (or companies) providing water service to the project site shall make a factual showing consistent with, or the City shall impose conditions similar to, those required by Government Code section 66473.7 in order to ensure an adequate water supply for development authorized by the project. Prior to recordation of any final subdivision map, or prior to City approval of any similar project-specific discretionary land use approval or entitlement required for nonresidential uses, the project applicant or water provider shall demonstrate the availability of a long-term, reliable water supply for the amount of development that would be authorized by the final subdivision map or project-specific discretionary non-residential approval or entitlement. This assurance of water supply shall identify that the water provider has legal entitlement to the water source and that the water source is reasonably reliable (at least 20 years) under normal, dry and multiple dry years. Such demonstration shall consist of a written certification from the water provider that either existing sources are available or that needed improvements will be in place prior to occupancy. <p>Timing: Before approval of project-specific discretionary land-use entitlements and approvals, including all final small-lot maps; or for nonresidential projects, before issuance of use permits, building permits, or other entitlements.</p> <p>Enforcement: City of Rancho Cordova Planning Department.</p> <p>Implementation of Mitigation Measure 3.5-2 would reduce significant impacts related to the need for initial water supplies to serve the remaining Phase 1 development under the under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a less-than-significant level because the City would require written certification verifying the availability of a long-term, reliable water supply for the project or that needed improvements will be in place prior to occupancy.</p> <p>If water supply for remaining Phase 1 development is not available because of unknown or unforeseeable events after approval and construction of the remaining Phase 1 development begins, implementation of Mitigation Measure 3.5-2 would result in the curtailment of development, resulting in a partially built-out project. Impacts associated with the curtailment of development are evaluated below in Impact 3.5-4.</p> <p>NP: No mitigation measures are required.</p>					
<p>3.5-3: Need for Initial Off-Site Water Conveyance Facilities. Because permanent water conveyance facilities would not be available until completion of the NSAPP, initial conveyance facilities would be required to supply and convey water to the project site.</p>					
<p>Air Quality</p>	LTS	LTS	LTS	LTS	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative.
 For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
Biological Resources	LTS	LTS	LTS	LTS	No Direct, No Indirect
Cultural Resources	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Drainage, Hydrology, and Water Quality	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Environmental Justice	No Direct / Indirect	No Direct, No Indirect			
Geology, Soils, and Mineral Resources	Direct & LTS	Direct & LTS	Direct & LTS	Direct & LTS	No Direct, No Indirect
Hazards and Hazardous Materials	No Direct / Indirect	No Direct, No Indirect			
Land Use	Direct & LTS	Direct & LTS	Direct & LTS	Direct & LTS	No Direct, No Indirect
Noise	Direct & LTS	Direct & LTS	Direct & LTS	Direct & LTS	No Direct, No Indirect
Paleontological Resources	Direct & LTS	Direct & LTS	Direct & LTS	Direct & LTS	No Direct, No Indirect
Parks and Recreation	Indirect & LTS	Indirect & LTS	Indirect & LTS	Indirect & LTS	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
Population, Employment, and Housing	Indirect & LTS	Indirect & LTS	Indirect & LTS	Indirect & LTS	No Direct, No Indirect
Public Services	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Traffic and Transportation	No Direct or Indirect	No Direct or Indirect	No Direct or Indirect	No Direct or Indirect	No Direct, No Indirect
Utilities and Service Systems	Indirect & LTS	Indirect & LTS	Indirect & LTS	Indirect & LTS	No Direct, No Indirect
Visual Resources	Direct & LTS	Direct & LTS	Direct & LTS	Direct & LTS	No Direct, No Indirect

PP, HD, IM, NF: Mitigation Measure 3.5-3: Submit Proof of an Off-Site and On-Site Infrastructure Delivery System or Assure that Adequate Financing is Secured.

The following shall be required for all legislative-level development projects, including community plans, general plan amendments, specific plans, rezonings, and other plan-level discretionary entitlements, but excluding tentative subdivisions maps, parcel maps, use permits, and other project-specific discretionary land-use entitlements or approvals:

- ▶ All required water treatment and delivery infrastructure for the project shall be in place at the time of subsequent, project-specific discretionary land-use entitlements or approvals, or shall be assured prior to occupancy through the use of bonds or other sureties to the City’s satisfaction. Water infrastructure may be phased to coincide with the phased development of large-scale projects.

The following shall be required for project-specific discretionary land-use entitlements and approvals including, but not limited to, all tentative subdivision maps, parcel maps, or use permits:

- ▶ Off-site and on-site water infrastructure sufficient to provide adequate water to the subdivision shall be in place prior to the issuance of building permits or their financing shall be assured to the satisfaction of the City prior to the approval of the Final Map, consistent with the requirements of the Subdivision Map Act, or prior to the issuance of a similar, project-level entitlement for nonresidential land uses.

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>► Off-site and on-site water distribution systems required to serve the subdivision shall be in place and contain water at sufficient quantity and pressure prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.</p> <p>Timing: Before the approval of project-specific, discretionary land-use entitlements and approvals, including all final small-lot maps, or for nonresidential projects, before the issuance of use permits, building permits, or other entitlements.</p> <p>Enforcement: City of Rancho Cordova Planning Department.</p> <p>Implementation of Mitigation Measure 3.5-3 would reduce direct, potentially significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives related to off-site water conveyance facilities to a less-than-significant level, because off-site water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be in place before recordation of any final small-lot subdivision map, or before the City approves any similar project-specific, discretionary approval or entitlement required for nonresidential uses. Implementation of Mitigation Measures 3.4-3, 3.6-1, and 3.9-3 from the 2006 DEIR/DEIS would reduce indirect significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives related to off-site water conveyance facilities to a less-than-significant level, because adverse impacts on cultural resources would be avoided, appropriate BMPs would be implemented to control erosion, and a traffic plan would be developed and implemented during construction activities.</p> <p>NP: No mitigation measures are required.</p>					
<p>3.5-4: Temporary Curtailment of Project Development. Implementation of Mitigation Measure 3.5-2 (for initial supplies) would result in the temporary curtailment of development during the period of time when the project would be dependent on the initial water supplies, resulting in a partially built-out project.</p>					
Land Use	Direct & S	Direct & S	Direct & S	Direct & S	No Direct, No Indirect
Population, Employment, and Housing	Direct & LTS	Direct & LTS	Direct & LTS	Direct & LTS	No Direct, No Indirect
Environmental Justice	Direct & LTS	Direct & LTS	Direct & LTS	Direct & LTS	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
Drainage, Hydrology, and Water Quality	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Utilities and Service Systems	Indirect & S	Indirect & S	Indirect & S	Indirect & S	No Direct, No Indirect
Public Services	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Geology, Soils, and Mineral Resources	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Paleontological Resources	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Cultural Resources	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Biological Resources	Indirect & S	Indirect & S	Indirect & S	Indirect & S	No Direct, No Indirect
Visual Resources	Direct & S	Direct & S	Direct & S	Direct & S	No Direct, No Indirect
Parks and Recreation	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
Hazards and Hazardous Materials	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative.
 For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
Traffic and Transportation	Direct & S	Direct & S	Direct & S	Direct & S	No Direct, No Indirect
Air Quality	Direct & S	Direct & S	Direct & S	Direct & S	No Direct, No Indirect
Noise	Direct & PS	Direct & PS	Direct & PS	Direct & PS	No Direct, No Indirect
<p>PP, HD, IM, NF: Mitigation Measure: Implement the same mitigation measures called for in the 2006 DEIR/DEIS and in this Recirculated DEIR/Supplemental DEIS, as specifically set forth in Table ES-1.</p> <p>Implementation of the same mitigation measures called for in the 2006 DEIR/DEIS would reduce potentially significant and significant impacts related to curtailment of development for the same reasons elaborated in each section of Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures” of the 2006 DEIR/DEIS.</p> <p>NP: No mitigation measures are required.</p>					
3.5-5: Increased Demand for Permanent Water Supplies. Project implementation would increase demand on the existing water supply.	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	No Direct, No Indirect
<p>PP, HD, IM, NF, NP: No mitigation measures are required.</p>					
3.5-6: Need for Water Conveyance Facilities to Deliver Long-Term Water Supplies. Project implementation would require construction of on-site water conveyance facilities to deliver water from SCWA’s off-site conveyance facilities to the project site. The permanent long-term water supplies cannot be delivered to the project site until off-site water conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.	Direct & PS	Direct & PS	Direct & PS	Indirect and Direct SU	No Direct, No Indirect
<p>PP, HD, IM: Mitigation Measure: Implement Mitigation Measure 3.5-3.</p>					

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Implementation of Mitigation Measure 3.5-3 would reduce direct, potentially significant impacts under the Proposed Project, High Density, and Impact Minimization Alternatives related to on-site and off-site water conveyance facilities to a less-than-significant level, because water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be in place before recordation of any final small-lot subdivision map, or before City approval of any similar project-specific, discretionary approval or entitlement required for nonresidential uses. If on-site or off-site water conveyance facilities are delayed or not constructed, implementation of Mitigation Measure 3.5-3 would cause project development to be permanently curtailed because existing water supplies may not be available to meet the demands of the project. Impacts associated with permanent curtailment of development are discussed in Impact 3.5-7.</p> <p>Regarding expansion of Zone 40 water supply facilities and infrastructure, implementation of mitigation measures to reduce impacts is the responsibility of Zone 40. Such measures would be implemented in accordance with the certified Zone 40 EIR prepared by SCWA. Impacts on seven issue areas would remain significant and unavoidable after implementation of mitigation.</p> <p>Similarly, implementation of mitigation measures to reduce impacts related to the expansion of the FRWP water supply facilities and infrastructure is the responsibility of SCWA and EBMUD. Such measures would be implemented in accordance with the certified FRWP EIR/EIS prepared by FRWA. Impacts on six issue areas would remain significant and unavoidable after implementation of mitigation.</p> <p>NF: Mitigation Measure: Implement Mitigation Measure 3.5-3.</p> <p>Implementation of Mitigation Measure 3.5-3 would reduce direct potentially significant impacts under the No Federal Action Alternative related to off-site water conveyance facilities because the construction and financing of water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be reasonably foreseeable before recordation of any final small-lot subdivision map, or before City approval of any similar project-specific, discretionary approval or entitlement required for nonresidential uses. However, impacts would not be reduced to a less-than-significant level.</p> <p>Implementation of Mitigation Measure 3.5-3 under the No Federal Action Alternative would result in indirect off-site impacts related to water supply to surrounding development in Rancho Cordova, as follows:</p> <ul style="list-style-type: none"> ▶ Construction of new off-site alternative alignments of water conveyance facilities would be necessary to serve surrounding development. These alternative alignments would require separate CEQA review; therefore, the full extent of impacts cannot be determined. However, it is assumed that implementation of alternative pipeline alignments would result in significant impacts on biological resources, as well as significant construction-related impacts (i.e., construction-related traffic, air-quality emissions, water quality, and noise impacts). ▶ If new water conveyance facilities with alternative alignments could not be constructed off-site, temporary or permanent curtailment of planned development in the surrounding area could result from a lack of necessary water conveyance facilities. Curtailing planned off-site development could result in its own set of potentially significant impacts, including a lack of funding that might be necessary to implement infrastructure (e.g., roads, sewer, and water) required on a regional or local level. 					

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**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>Identification of alternative water supply pipeline alignments would fall under the jurisdiction of the County and SWCA; therefore, neither the City nor the project applicant(s) could guarantee approval of these alternative pipeline alignments. Additionally, it is possible that these alternative alignments would be inconsistent with SWCA’s WSMP and would be subject to separate CEQA compliance. For these reasons, this impact would remain significant and unavoidable. If the County, SWCA, and other potentially affected agencies cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually could be reduced to a less-than-significant level in the long term, depending on the outcome of the separate CEQA evaluation (if needed).</p> <p>Regarding expansion of Zone 40 water supply facilities and infrastructure, implementation of mitigation measures to reduce impacts is the responsibility of Zone 40. Such measures would be implemented in accordance with the certified Zone 40 EIR prepared by SCWA. Impacts on seven issue areas would remain significant and unavoidable after implementation of mitigation.</p> <p>Similarly, implementation of mitigation measures to reduce impacts related to the expansion of the FRWP’s water-supply facilities and infrastructure is the responsibility of SCWA. Such measures would be implemented in accordance with the certified FRWP EIR/EIS prepared by SCWA. Impacts on six issue areas would remain significant and unavoidable after implementation of mitigation.</p> <p>If on-site or off-site water conveyance facilities are delayed or not constructed, implementation of Mitigation Measure 3.5-3 would cause project development to be curtailed. Impacts associated with the curtailment of development are discussed in Impact 3.5-7.</p> <p>NP: No mitigation measures are required</p>					
<p>3.5-7: Permanent Curtailment of Project Development. Water supplies would be available to meet the project’s long-term water demands once the long-term water supply conveyance facilities identified in the Zone 40 WSMP (i.e., Vineyard Surface WTP, FRWP, and NSAPP) have been constructed and are online. While there is a reasonable likelihood that SCWA has water to supply the project in the long term, there is uncertainty regarding whether the infrastructure necessary to deliver the long-term water supplies needed to serve the project would successfully be implemented, and a permanent curtailment in project development could occur.</p> <p>PP, HD, IM, NF, NP: No mitigation measures are required.</p>	Direct & LTS. No Indirect	No Direct, No Indirect			

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
3.5-8: Use of Nonpotable-Water Supplies and Infrastructure. Project implementation could result in the use of nonpotable-water supplies and infrastructure to provide landscaping and open space irrigation. Initially, the demands for nonpotable water would be met by the project’s potable-water supplies. In the long term, it is assumed that future supplies of nonpotable water would be provided by SRCSD or by GET-Remediated Water facilities, when a sufficient supply of nonpotable water is available to meet project demands. PP, HD, IM, NF, NP: No mitigation measures are required.	Direct & LTS. No Indirect	No Direct, No Indirect			
3.5-9: Effects of Global Climate Change on Surface-Water and Groundwater Supplies. Project implementation would increase demand for water. Supplies of surface water and groundwater in California could be affected by global climate change. PP, HD, IM, NF, NP: No mitigation measures are required.	Direct & LTS. No Indirect	No Direct, No Indirect			
Project Level (Phase 1)					
3.5-10: Need for Initial Water Supplies for Development Phase 1A. Project implementation would result in a need for an initial water supply to the project site for development Phase 1A until the SCWA facilities (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online. PP, HD, IM, NF, NP: No mitigation measures are required.	Direct & LTS, No Indirect	No Direct, No Indirect			
3.5-11: Need for Initial Water Supplies for the Remaining Phase 1 Development. Project implementation would result in a need for an initial water supply to the project site for the remaining Phase 1 development until the SCWA facilities (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online. PP, HD, IM, NF: Implement Mitigation Measure 3.5-2: Submit Proof of Water Supply Availability	Direct & S, No Indirect	No Direct, No Indirect			

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**Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
NP: No mitigation measures are required.					
3.5-12: Need for Initial Off-Site Water Conveyance Facilities. Implementation of development Phase 1 would result in increased demand for water conveyance facilities. Because permanent water conveyance facilities would not be available until completion of the NSAPP, initial conveyance facilities would be required to supply and convey water to the project site.	Refer to Impact 3.5-3 for further discussion of this impact.				
PP, HD, IM, NF, NP: No mitigation measures are required.					
3.5-13: Temporary Curtailment of Project Development. Implementation of Mitigation Measure 3.5-2 (for initial supplies) would result in the temporary curtailment of development during the period of time when the project would be dependent on the initial water supplies, resulting in a partially built-out project.	Refer to Impact 3.5-4 for further discussion of this impact.				
PP, HD, IM, NF, NP: No mitigation measures are required.					
3.5-14: Increased Demand for Permanent Water Supplies. Implementation of development Phase 1 would increase demand on the existing water supply.	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	No Direct, No Indirect
PP, HD, IM, NF, NP: No mitigation measures are required.					
3.5-15: Need for Water Conveyance Facilities to Deliver Long-Term Water Supplies. Project implementation would require construction of on-site water conveyance facilities to deliver water from SCWA’s off-site conveyance facilities to the project site. The permanent long-term water supplies cannot be delivered to the project site until off-site water conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.	Direct & PS	Direct & PS	Direct & PS	Indirect and Direct SU	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative. For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

Table ES-1
Summary of the Program and Project Level (Phase 1)
Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
Impact 3.5-16: Permanent Curtailment of Project Development. Water supplies would be available to meet the project’s long-term water demands once the long-term water supply conveyance facilities identified in the Zone 40 WSMP (i.e., Vineyard Surface WTP, FRWP, and NSAPP) have been constructed and are online. While there is a reasonable likelihood that SCWA has water to supply the project in the long term, there is uncertainty regarding whether the infrastructure necessary to deliver the long-term water supplies needed to serve the project would successfully implemented, and a permanent curtailment in project development could occur.	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	No Direct, No Indirect
Impact 3.5-17: Use of Nonpotable-Water Supplies and Infrastructure. Project implementation could result in the use of nonpotable-water supplies and infrastructure to provide landscaping and open space irrigation. Initially, the demands for nonpotable water would be met by the project’s potable-water supplies. In the long term, it is assumed that future supplies of nonpotable water would be provided by SRCSD or by GET-Remediated Water facilities, when a sufficient supply of nonpotable water is available to meet project demands.	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	No Direct, No Indirect
Impact 3.5-18: Effects of Global Climate Change on Surface-Water and Groundwater Supplies. Implementation of development Phase 1 would increase demand for water supply. Supplies of surface water and groundwater in California could be affected by global climate change.	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	Direct & LTS. No Indirect	No Direct, No Indirect

Note: PP = Proposed Project Alternative; HD = High Density Alternative; IM = Impact Minimization Alternative; NF = No Federal Action Alternative; NP = No Project Alternative.
 For impacts labeled B, LTS, NI, No Direct, and/or No Indirect, no mitigation measures are required. B = Beneficial, LTS = Less than significant, LTS(m) = Less than significant with mitigation, NI = No Impact, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable, SU(m) = Significant and Unavoidable with mitigation

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Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration**

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
3.10 BIOLOGICAL RESOURCE					
Program Level					
<p>3.10-1: Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State. Implementation of the project would result in the placement of fill material into jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the federal Clean Water Act, and the substantial loss and degradation of nonjurisdictional wetland habitats protected under state and local regulations. Wetlands and other waters of the United States that would be affected by project implementation include vernal pools, seasonal wetland swales, ponds, and seasonal drainages.</p>	Direct & Indirect S	Direct & Indirect S	Direct LTS & Indirect S.	Indirect S & SU	No Direct, No Indirect
<p>PP, HD, IM: Mitigation Measure 3.10-1a: Secure Clean Water Act Section 404 Permit and Implement All Permit Conditions, and Ensure No Net Loss of Wetlands, Other Waters of the United States, and Associated Functions and Values.</p> <p>Before the approval of grading and improvement plans and before any groundbreaking activity associated with each distinct project phase, the project applicant(s) for each project phase requiring the fill of wetlands or other waters of the United States or waters of the state shall obtain all necessary permits under Sections 401 and 404 of the CWA or the State’s Porter-Cologne Act for the respective phase. The project applicant(s) shall commit to replace, restore, or enhance on a “no net loss” basis (in accordance with USACE, the Central Valley RWQCB, and the Natural Resources Element of the City General Plan) the acreage of all wetlands and other waters of the United States subject to USACE jurisdiction and waters of the state subject to RWQCB jurisdiction and the City General Plan that would be removed, lost, and/or degraded with implementation of project plans for that phase. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the Central Valley RWQCB, and the City, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.</p> <p>To accomplish this mitigation, the project applicant(s) shall take the following steps:</p> <ul style="list-style-type: none"> ▶ The project applicant(s) shall conduct an assessment of representative portions of the proposed wetland preserves within the Rio del Oro property and any other proposed preserve areas using the California Rapid Assessment Method (CRAM) for Wetlands. Data shall be used to evaluate current conditions and serve as a baseline for future monitoring. The following requirements apply to the assessment of the proposed wetland preserves: <ul style="list-style-type: none"> • The field assessment shall be conducted during the flowering period for plant species associated with vernal pools, typically March through June. • The investigation shall define and evaluate assessment areas. Such areas shall be analyzed using 17 different metrics organized into four main attributes 					

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Table ES-1
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Impacts and Mitigation Measures Proposed Project and Alternatives under Consideration

Impact Mitigation	Alternatives				
	PP	HD	IM	NF	NP
<p>developed for vernal pool systems (California Rapid Assessment Method for Wetlands Depressional Field Book, Version 5.0, September 2007). Those attributes are: buffer and landscape context, hydrology, physical structure, and biotic structure.</p> <ul style="list-style-type: none"> • CRAM scores shall be calculated for each assessment area by adding up the component metrics of each attribute and converting the sum into a percentage of the maximum score possible for that attribute. • The CRAM analysis shall also include a discussion of potential stressors associated with human activities within or surrounding the wetlands assessed, which may provide qualitative information regarding the CRAM scores. <p>The data collected during the initial assessment shall serve as the baseline (preproject condition), to which data collected during future monitoring efforts shall be compared.</p> <ul style="list-style-type: none"> ▶ As part of the Section 404 permitting process, a draft wetland MMP has been developed for the project (Appendix D) by ECORP Consulting on behalf of the project applicant(s). Before any ground-disturbing activities that would adversely affect wetlands and before engaging in mitigation activities associated with each phase of development, the project applicant(s) shall submit the draft wetland MMP to USACE, the Central Valley RWQCB, and the City for review and approval of those portions of the plan over which they have jurisdiction. Once the MMP is approved and implemented, mitigation monitoring will continue for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the performance standards identified in the approved MMP have been met, whichever is longer. <p>The plan shall be prepared to the satisfaction of the City, in accordance with the City’s Grading and Erosion Control Ordinance, as well as to the satisfaction of those agencies with jurisdiction over all or portions of the plan.</p> <ul style="list-style-type: none"> ▶ In conjunction with preparation and implementation of an approved wetland MMP, the project applicant(s) shall prepare and submit plans for the creation of jurisdictional waters of the United States, including wetlands, at an adequate mitigation ratio to offset the aquatic functions and values that would be lost at the project site, account for the temporal loss of habitat, and contain an adequate margin of safety to reflect anticipated success. The MMPs must demonstrate how the aquatic functions and values that would be lost through project implementation will be replaced. The habitat MMP for jurisdictional wetland features will need to be consistent with USACE’s December 30, 2004, Habitat Mitigation and Monitoring Proposal Guidelines. The wetland MMP shall also mitigate impacts on vernal pool and seasonal wetland habitat, and shall describe specific method(s) to be implemented to avoid and/or mitigate any off-site project-related impacts. The wetland creation section of the habitat MMP shall include the following: <ul style="list-style-type: none"> • target areas for creation; • a complete biological assessment of the existing resources in the target areas, including a CRAM analysis conducted during the wet season to establish baseline conditions; • specific creation and restoration plans for each target area; 					

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Impact Mitigation	Alternatives				
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<ul style="list-style-type: none"> • performance standards for success that will illustrate that the compensation ratios are met; and • a monitoring plan, including schedule and annual report. As requested by EPA, the monitoring plan shall incorporate CRAM analysis and the following elements: <ul style="list-style-type: none"> – intensive monitoring of hydrology early on (this can be phased out as created wetlands are achieving target standards); – CRAM analysis conducted annually for 5 years after any construction adjacent to assessment areas to determine whether these areas are retaining functions and values; – analysis of CRAM data, including assessment of potential stressors, to determine whether any remedial activities may be necessary; – corrective measures if performance standards are not met; – monitoring of vegetation communities and targeted special-status species as success criteria for hydrologic function have become established and the creation site “matures” over time; – reference locations for comparison to compensatory vernal pools to document success; – adaptive management measures to be applied if performance standards are not being met; – responsible parties for monitoring and preparing reports; and – responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions. • An operations and management plan for the Preserve shall be prepared and submitted to USACE and USFWS for review and approval. The plan shall include detailed information on the habitats present within the target area, the long-term management and monitoring of these habitats, legal protection for the target area (e.g., conservation easement, declaration of restrictions), and funding mechanism information (e.g., endowment). ▶ For each phase of development, including off-site project-related impacts, the project applicant(s) shall secure the permits and regulatory approvals described below and shall implement all permit conditions. For each respective phase, all permits, regulatory approvals, and permit conditions for effects on wetland habitats shall be secured before implementation of any grading activities within 250 feet of waters of the United States or wetland habitats, including waters of the state, that potentially support federally listed species. The setback may be reduced to a distance approved by the City and USFWS if a wetland avoidance plan is developed and implemented by a qualified biologist. The wetland avoidance plan must be approved by USFWS and the City and shall demonstrate that all direct and indirect impacts on wetlands will be avoided. Project phases in upland areas with no wetlands or waters of the United States within 250 feet, and no overland hydrologic flow patterns, the disturbance of which may affect such waters, may begin construction before these particular permits are obtained. Buffers around wetlands that do not support federally listed species shall be a minimum of 50 feet from the edge of these features in accordance with conditions of the National Pollutant Discharge Elimination System (NPDES) permit and associated best management practices (BMPs). See Section 3.4, 					

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<p>“Drainage, Hydrology, and Water Quality,” of the 2006 DEIR/DEIS for a further discussion of the NPDES.</p> <ul style="list-style-type: none"> • Authorization to place dredged or fill material into waters of the United States shall be secured from USACE through the CWA Section 404 permitting process before any fill is placed in jurisdictional wetlands or other waters of the United States. USACE has determined that the project will require an individual permit. In its final stage and once approved by USACE, the proposed MMP for the project is expected to detail proposed wetland restoration, enhancement, and/or replacement activities that would ensure no net loss of aquatic functions and values in the project vicinity. Approval and implementation of the wetland MMP shall fully mitigate all impacts on jurisdictional waters of the United States, including jurisdictional wetlands. In addition to USACE approval, approval by the City and the Central Valley RWQCB, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes, will also be required. To satisfy the requirements of the City and the Central Valley RWQCB, mitigation of impacts on nonjurisdictional wetlands beyond the jurisdiction of USACE shall be included in the same MMP. All mitigation requirements determined through this process shall be implemented before grading plans are approved. Wetland mitigation must be approved before any impacts on wetlands commence. • Water quality certification pursuant to Section 401 of the CWA will be required before issuance of a Section 404 permit. Before construction in any areas containing wetland features, the project applicant(s) shall obtain water quality certification for the applicable phase of the project. Any measures required as part of the issuance of water quality certification shall be implemented. <p>If Section 401 and 404 permit requirements ensure no net loss of all wetland features, including vernal pools, and these requirements are addressed before any ground-disturbing activities, no additional mitigation will be required by the City. Written approval from the City indicating that these requirements fulfill all no-net-loss obligations must be obtained before the approval of grading or improvement plans or any ground-disturbing activities in any project phase containing wetland features.</p> <p>Timing: Before the approval of grading or improvement plans or any ground-disturbing activities for any project development phase containing wetland features. The MMP must be approved before any impact on wetlands can occur. Mitigation shall be implemented on an ongoing basis throughout and after construction, as required.</p> <p>Enforcement: U.S. Army Corps of Engineers, Sacramento District; Central Valley Regional Water Quality Control Board; and City of Rancho Cordova Planning Department, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes and in compliance with the City’s Grading and Erosion Control Ordinance.</p> <p>NF: The project applicant(s) for all project phases shall commit to replace, restore, or enhance on a “no net loss” basis (in accordance with the Central Valley RWQCB and the Natural Resources Element of the City General Plan) the acreage of all waters of the state. Waters of the state include all nonjurisdictional wetlands that would be removed, lost, and/or degraded with implementation of project plans for that phase that require permitting from the resource agencies. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to the Central Valley RWQCB and the City.</p>					

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NP: No mitigation measures are required.					
<p>PP, HD, IM, NF: Mitigation Measure 3.10-1b: Include in Drainage Plans All Wetlands that Remain On-Site.</p> <p>A model-based watershed analysis was conducted by ECORP Consulting (Appendix D) to determine hydrologic effects on wetlands within the 507-acre preserve. The long-term viability of the preserve was analyzed using all of the following factors:</p> <ul style="list-style-type: none"> ▶ the size of the preserve, ▶ the amount of watershed area required to support the wetlands within the preserve, ▶ the potential impacts from the construction of Rancho Cordova Parkway and Americanos Boulevard, ▶ the construction of the mitigation wetlands within the preserve, and ▶ the watershed area needed to support the hydrologic function of each mitigation wetland. <p>The proposed construction design includes measures to reduce interference with the hydrology that sustains vernal pools on-site, including the use of con-span bridge systems (Exhibits 2-7 and 2-8 in the 2006 DEIR/DEIS) as natural substrate span crossings over Morrison Creek. Rancho Cordova Parkway and Americanos Boulevard would cross Morrison Creek with a clear span of the delineated wetlands within the channel bank, so no construction would occur within the channel and no fill or modification of the channel would be required.</p> <p>GIS analysis of a LiDAR-derived topographic model (Appendix D) and wetland delineation data were used to determine the watershed-to-wetland ratio (WWR) for the wetlands within the preserve. It was found that the proposed configuration of the preserve conserves almost 100% of the original watershed area and would not negatively affect the hydrologic function of the vernal pools. GIS analysis calculated the mean watershed ratio of existing vernal pools in the preserve at 7.14:1. This WWR would be maintained for all existing vernal pools, except that the WWR of one small pool (0.053 acre) would be reduced to 6.62:1. The adverse effect on this vernal pool should not be considered significant because pools of this size class require a WWR of only 3.26:1 to maintain functionality.</p> <p>To minimize indirect effects on water quality and wetland hydrology, the project applicant(s) of each project phase shall include drainage plans in their improvement plans and shall submit the drainage plans to the City Public Works Department for review and approval. Before approval of these improvement plans, the project applicant(s) for all project phases shall commit to implement all measures in their drainage plans to avoid and minimize erosion and runoff into Morrison Creek and all wetlands that would remain on-site. Appropriate runoff controls such as berms, storm gates, detention basins, overflow collection areas, filtration systems, and sediment traps shall be implemented to control siltation and the potential discharge of pollutants. For runoff during construction, see Section 3.4, “Drainage, Hydrology, and Water Quality,” of the 2006 DEIR/DEIS for a further discussion of the NPDES (Stormwater Pollution Prevention Plan).</p> <p>The project shall result in no net change to peak flows into Morrison Creek and associated tributaries. The project applicant(s) shall establish a baseline of conditions for drainage on-site. The baseline-flow conditions shall be established for 2-, 5-, 10-, and 20-year storm events. These baseline conditions shall be used to develop monitoring standards for the stormwater system on the project site. The baseline conditions, monitoring standards, and a monitoring program shall be submitted to USACE and the City for their approval. The engineered channel and detention basins shall be designed and constructed to ensure that the</p>					

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<p>performance standards, which are described in Section 3.4, “Drainage, Hydrology, and Water Quality,” of the 2006 DEIR/DEIS are met. The discharge site into Morrison Creek and associated tributaries shall be monitored to ensure that preproject conditions are being met. Stormwater runoff from Rancho Cordova Parkway would be discharged out of the wetland preserve to the north and south, and runoff from the central portion of the road would drain into a water quality treatment swale before being discharged into the wetland preserve (Exhibit 3.10-4). Runoff from Americanos Boulevard would be directed into a water quality treatment basin before being discharged into Morrison Creek (Exhibit 3.10-5). The water quality swale and treatment basins would be designed according to the Stormwater and Water Quality Design Manual for the Sacramento and South Placer Regions (Sacramento Stormwater Quality Partnership 2007) and shall meet the performance standards described in Section 3.4, “Drainage, Hydrology, and Water Quality,” of the 2006 DEIR/DEIS. Corrective measures shall be implemented as necessary. The mitigation measures will be satisfied when the monitoring standards are met for 5 consecutive years without undertaking corrective measures to meet the performance standard.</p> <p>Timing: Before approval of improvement and drainage plans, and on an ongoing basis throughout and after project construction, as required for all project phases.</p> <p>Enforcement: U.S. Army Corps of Engineers, Sacramento District; and City of Rancho Cordova Public Works and Planning Departments.</p> <p>NP: No mitigation measures are required.</p>					
<p>3.10-2: Loss and Degradation of Sensitive Natural Communities. Implementation of the project would result in the substantial loss and degradation of riparian habitat and other natural communities considered sensitive by state and local resource agencies and requiring consideration under CEQA. Sensitive natural communities that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative include willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, and cottonwood–willow riparian forest.</p> <p>PP, HD, IM: Mitigation Measure 3.10-2a: Secure and Implement Section 1602 Streambed Alteration Agreement.</p> <p>A Section 1602 streambed alteration agreement from DFG will be required for construction affecting the bed and bank of Morrison Creek. As a condition of issuance of the streambed alteration agreement, the project applicant(s) for all project phases shall prepare a habitat MMP. The draft wetland MMP shall address impacts on the stream channel of Morrison Creek and shall include mitigation of impacts on riparian habitats to the satisfaction of DFG, subject to limitations on its authority set forth in Fish and Game Code Section 1600 et seq. The MMP shall include performance standards and success criteria to ensure that mitigation habitat would be successfully maintained.</p> <p>Any conditions of issuance of the streambed alteration agreement shall be implemented as part of project construction activities that adversely affect the bed and bank and current and historic riparian habitat associated with Morrison Creek that is within the area subject to DFG jurisdiction. The agreement shall be executed</p>	Direct & Indirect LTS	No Direct, No Indirect			

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<p>by the project applicant(s) and DFG before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the bed and bank of Morrison Creek and its associated current and historic riparian habitat.</p> <p>Timing: Before the approval of grading or improvement plans or any construction activities (including clearing and grubbing) that affect the bed and bank or current and historic riparian habitat associated with Morrison Creek.</p> <p>Enforcement: California Department of Fish and Game.</p> <p>NF: No mitigation measures are required because the No Federal Action Alternative would not result in alteration to the bed or bank of Morrison Creek. Therefore, a streambed alteration agreement from DFG would not be needed as it would under the action alternatives.</p> <p>NP: No mitigation measures are required.</p>					
<p>PP, HD, IM: Mitigation Measure 3.10-2b: Preserve, Restore, or Create Riparian Habitat at Satisfactory Ratio to Fulfill Local Planning Framework Requirements.</p> <p>Goal NR.1, Policy NR 1.9 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of “large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors.” Portions of the on-site riparian habitat such as the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub have been determined to provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats. To implement Goal NR.1, a habitat MMP shall be developed and implemented to replace the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub at no-net-loss acreage to preserve the overall habitat functions and values. Elements of the habitat MMP may include habitat preservation on-site, enhancement of on-site riparian habitat types, or enhancement or protection of habitat off-site. The specific ratios of habitat lost to habitat created shall be determined by the City in consultation with DFG as a trustee agency protecting the wildlife resources of the state. The ratios shall be consistent with the City’s policy and shall be adequate to protect and preserve the diverse resources in the City.</p> <p>Any conditions of issuance of the riparian MMP shall be implemented as part of project construction activities that adversely affect riparian habitat. The riparian habitat MMP shall be developed by the project applicant(s) and submitted to the City before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the cottonwood willow riparian woodland and willow scrub on-site. The cottonwood–willow riparian forest habitat and willow woodland shall be either preserved or replaced on- or off-site on a no-net-loss basis because it provides functioning riparian habitat that is self-sustaining at the present time. If preservation of this on-site habitat type is chosen, the hydrology that supports this habitat must also be preserved to ensure the long-term viability of this habitat type.</p> <p>The remainder of the riparian habitat on the project site consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation. Because of the poor quality of the majority of the riparian habitat on the project site, the project mitigation for this riparian habitat shall be limited to the replacement and/or restoration</p>					

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<p>of its current function and value (which consists of nesting and foraging habitat for raptors and other birds, as well as foraging habitat and shelter for numerous common wildlife species) as determined acceptable to the City in consultation with DFG as a trustee agency.</p> <p>Timing: Before the approval of grading or improvement plans or any construction activities and before removal of any riparian vegetation as required for any project phase.</p> <p>Enforcement: City of Rancho Cordova Planning Department in consultation with California Department of Fish and Game.</p> <p>NF: No mitigation measures are required because the No Federal Action Alternative would not result in adverse effects on riparian habitat in addition to those habitats protected and addressed under City policy.</p> <p>NP: No mitigation measures are required.</p>					
<p>3.10-3: Loss of Oak Woodland and Individual Oak Trees. Project implementation would result in the loss of 3 acres of oak woodland habitat and would include the removal of 47 individual native oak trees with a diameter at breast height (dbh) of 6 inches or greater.</p> <p>PP, HD, IM, NF: Mitigation Measure 3.10-3: Perform Tree Survey and Avoid or Replace Native Oak Trees and Other Native Trees Scattered Throughout the Project Site.</p> <p>Before the approval of any development in areas identified to contain trees, the City shall require that a determinate survey of tree species and size be performed. If any native oaks or other native trees of 6 inches or greater dbh, multitrunk native oaks or native trees of 10 inches or greater dbh, or nonnative trees of 18 inches or greater dbh that have been determined by a qualified professional to be in good health are found to exist in the development area, such trees shall be avoided if feasible. If such trees cannot feasibly be avoided, the project applicant(s) for all project phases containing trees shall implement one of the following measures:</p> <ul style="list-style-type: none"> ▶ All such trees that will be removed or otherwise damaged by project implementation shall be replaced at an inch-for-inch ratio. A replacement tree planting plan shall be prepared by a qualified professional or licensed landscape architect and shall be submitted to the City for approval before removal of trees; OR ▶ The project applicant(s) shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City by a method comparable to an inch-by-inch replacement. The mitigation plan shall be subject to City approval. ▶ The tree planting or mitigation plan shall include monitoring requirements and success criteria, as determined by a qualified professional, to ensure that replacement trees survive to maturity and can be reasonably expected to persist for the normal life span of the particular species being monitored. Monitoring of replacement trees shall continue for a period of five years following planting and trees that do not survive or meet the success criteria shall be replaced. 	Direct & S. No indirect	No Direct, No Indirect			

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<p>Loss of trees mitigated through implementation of mitigation measures associated with riparian habitat impacts shall not be subject to this mitigation measure. If the City adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.</p> <p>Timing: Before the approval of any development in any project phase that contains areas that have been identified to contain trees.</p> <p>Enforcement: City of Rancho Cordova Planning Department.</p> <p>NP: No mitigation measures are required.</p>					
<p>3.10-4: Loss and Degradation of Habitat for Special-Status Wildlife. Implementation of the project would result in the loss and degradation of habitat for a number of special-status wildlife species, including vernal pool invertebrates, VELB, western spadefoot toad, Swainson’s hawk, and other raptors.</p>	Direct & Indirect S	Direct & Indirect S	Direct & Indirect S	Indirect S	No Direct, No Indirect
<p>PP, HD, IM: Mitigation Measure 3.10-4a: Secure Take Authorization for Federally Listed Vernal Pool Invertebrates and Implement Permit Conditions.</p> <p>No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a BO has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including conservation and minimization measures) intended to be completed before on-site construction. Conservation and minimization measures shall include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction, a detailed monitoring plan, and reporting requirements.</p> <p>A revised draft wetland MMP was developed by ECORP Consulting in September 2007 and is the applicant’s proposed plan for addressing project impacts on habitats that potentially support federally listed vernal pool invertebrates. The draft MMP, included in Appendix D to this document, is subject to review and approval by the appropriate regulatory agencies. Project implementation would result in the fill of 33.9 acres of habitat that could potentially support federally listed vernal pool invertebrates. This habitat consists of 17.5 acres of vernal pools, 4.2 acres of seasonal wetland swale, and 12.2 acres of seasonal wetlands. Indirect impacts on an additional 2.2 acres of vernal pools would also result from project implementation.</p> <p>Proposed mitigation in the draft MMP includes a combination of on-site preservation and compensatory mitigation (i.e., creation of vernal pools), as well as off-site mitigation through purchase of a 160-acre property, known as the Cook Property, and credit purchase in the Clay Station Mitigation Bank. The Cook Property mitigation proposal would preserve 21.7 acres of existing wetland habitat, including 2.7 acres of vernal pools, 2.6 acres of seasonal wetland swale, and 9.9 acres of seasonal wetland within the Mather Core Recovery Area that could potentially support federally listed branchiopods. Surveys in the vicinity of the Cook Property have identified vernal pool fairy shrimp and vernal pool tadpole shrimp, and the property is contiguous with other conservation properties that support vernal pool habitat. The Clay Station Mitigation Bank would provide compensatory mitigation in the form of 13 acres of created vernal pool habitat that has been monitored for approximately 10 years and currently supports both vernal pool fairy shrimp and vernal pool tadpole shrimp. Proposed on-site mitigation consists of</p>					

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	PP	HD	IM	NF	NP
<p>designation of a 507-acre wetland preserve in the southern portion of the project site. A total of 20.4 acres of existing vernal pools would be retained in the proposed preserve and an additional 17.9 acres would be restored and created in the preserve under the proposed MMP. The proposed preserve also contains 2.5 acres of seasonal wetland swale, 3.3 acres of seasonal wetland, 0.6 acre of pond, and 1.9 acres of ephemeral drainage. All of these features, as well as that portion of Morrison Creek that is within the 507-acre wetland preserve, would be preserved. In addition, the proposed draft MMP proposes creation of 20.8 acres of seasonal wetlands within the drainage parkways that would be developed for the project.</p> <p>In summary, the project would directly or indirectly affect 36.1 acres of potential vernal pool branchiopod habitat; the proposed MMP would preserve 41.4 acres of potential habitat and would create 51.6 acres of potential habitat. This would result in a preservation ratio of 1.15:1 and a compensatory mitigation ratio of 1.43:1, which would result in no net loss of vernal pool or seasonal wetland habitat that could potentially support federally listed vernal pool invertebrates. The details of the MMP are still being developed and reviewed by USACE, and the September 2007 draft is not the final, approved version.</p> <p>The project applicant(s) shall complete and implement a habitat MMP that will result in no net loss of acreage, function, and value of affected vernal pool habitat. The final habitat MMP shall be consistent with guidance provided in Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office, California (USFWS 1996) and the SSCHCP (if adopted) or shall provide an alternative approach that is acceptable to the City, USACE, and USFWS and accomplishes no net loss of habitat.</p> <p>The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. A watershed analysis of the hydrologic function of the wetland preserve was conducted by ECORP Consulting on behalf of the project applicant(s) (Appendix D). GIS analysis of a hydrologic model created from LiDAR-derived topography and wetland delineation data was used to determine the minimum watershed area required to support hydrologic function of the wetlands within the preserve. It was found that the proposed configuration of the preserve would conserve almost 100% of the original watershed area and would not negatively affect the hydrologic function of existing vernal pools. The land used to satisfy this mitigation measure shall be protected through a conservation easement acceptable to USACE, the City, and USFWS.</p> <p>The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve acreage of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat at a ratio approved by USFWS at the conclusion of the Section 7 consultation. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.</p> <p>A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, "Drainage, Hydrology, and</p>					

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<p>Water Quality,” of the 2006 DEIR/DEIS for the details of BMPs to be implemented.</p> <p>Timing: Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the mitigation plan, BO, and/or BMPs.</p> <p>Enforcement: U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; and City of Rancho Cordova Planning Department.</p> <p>NF: The project applicant(s) for all project phases shall obtain an incidental take permit under Section 10(a) of ESA. No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a BO has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including all conservation and minimization measures). Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction.</p> <p>Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on federally listed vernal pool invertebrates, or participate in the SSCHCP, if available. The project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that shall compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat conservation plan shall be consistent with the goals of the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005) and must be approved by USFWS.</p> <p>The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a fee title or conservation easement acceptable to the City and USFWS.</p> <p>The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation in support of a lesser indirect impact distance. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.</p> <p>A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, “Drainage, Hydrology, and Water Quality,” of the 2006 DEIR/DEIS for the details of BMPs to be implemented.</p>					

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<p>Timing: Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the habitat conservation plan, BO, and/or BMPs.</p> <p>Enforcement: U.S. Fish and Wildlife Service and City of Rancho Cordova Planning Department.</p> <p>NP: No mitigation measures are required.</p>					
<p>PP, HD, IM: Mitigation Measure: Implement Mitigation Measures 3.10-1a and 3.10-1b.</p> <p>Mitigation Measures 3.10-1a and 3.10-1b are discussed above under Impact 3.10-1.</p> <p>NF, NP: No mitigation measures are required.</p>					
<p>PP, HD, IM: Mitigation Measure 3.10-4b: Obtain Incidental Take Permit for Impacts on Valley Elderberry Longhorn Beetle.</p> <p>No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including conservation and minimization measures, intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.</p> <p>Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 7 consultation process with USFWS, but shall be a minimum of “no net loss.” Although Section 7 consultation for the project is ongoing, a draft VELB mitigation plan has been developed by ECORP Consulting (Appendix E). Because the proposed MMP is in draft form and a final BO has not been issued by USFWS, the proposed MMP may be modified in the future. Details from this draft plan are provided under the impact discussion above. The plan includes creation of two on-site preserve areas, transplanting of all existing shrubs to the on-site preserve areas, planting of 2,997 elderberry seedlings in the proposed preserve areas and drainage parkways, and purchase of 154.2 credits in a USFWS-approved mitigation bank. Implementation of this plan would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. A copy of the USFWS-approved mitigation plan shall be submitted to the City before the approval of any grading or improvement plans or any ground-disturbing activities within 100 feet of VELB habitat for all project phases.</p> <p>Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.</p>					

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<p>Timing: Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the mitigation plan and/or BO.</p> <p>Enforcement: U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; California Department of Fish and Game (if VELB delisted); and City of Rancho Cordova Planning Department.</p> <p>NF: As long as VELB remains a species protected under ESA, the project applicant(s) shall obtain an incidental take permit under Section 10(a) of ESA for VELB. No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including all conservation and minimization measures. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.</p> <p>Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on VELB, or participate in the SSCHCP, if available. If participation in the SSCHCP is not available or not chosen, the project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that will compensate for the loss of VELB habitat. Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 10(a) consultation process with USFWS, but shall be a minimum of “no net loss.” Based on the current (dated) knowledge of the number of shrubs on-site and the latest VELB preservation guidelines, it is expected that approximately 3,088 seedlings would need to be planted over an area of approximately 25 acres to fulfill VELB mitigation requirements and no net loss of habitat.</p> <p>Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.</p> <p>Timing: Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the habitat conservation plan and/or BO.</p> <p>Enforcement: California Department of Fish and Game (if VELB delisted), U.S. Fish and Wildlife Service, and City of Rancho Cordova Planning Department.</p> <p>NP: No mitigation measures are required.</p>					

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	PP	HD	IM	NF	NP
<p>PP, HD, IM, NF: Mitigation Measure 3.10-4c: Conduct Preconstruction Surveys for Nesting Raptors and, if Found, Establish Appropriate Buffers.</p> <p>To mitigate impacts on Swainson’s hawk and other raptors (including burrowing owl) for all project phases, the project applicant(s) shall retain a qualified biologist to conduct preconstruction surveys and to identify active nests on and within 0.5 mile of the project site and active burrows on the project site. The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction for all project phases. To the extent feasible, guidelines provided in Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in the Central Valley (Swainson’s Hawk Technical Advisory Committee 2000) shall be followed. If no nests are found, no further mitigation is required.</p> <p>If active nests are found, impacts on nesting Swainson’s hawks and other raptors shall be avoided by establishment of appropriate buffers around the nests. No project activity shall commence within the buffer area until a qualified biologist confirms that any young have fledged and the nest is no longer active. DFG guidelines recommend implementation of 0.25- or 0.5-mile buffers, but the size of the buffer may be adjusted if a qualified biologist and the City, in consultation with DFG, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.</p> <p>If active burrows are found, a mitigation plan shall be submitted to the City for review and approval before any ground-disturbing activities. The City shall consult with DFG. The mitigation plan may consist of installation of one-way doors on all burrows to allow owls to exit, but not reenter, and construction of artificial burrows within the project vicinity, as needed. If active burrows contain eggs and/or young, no construction shall occur within 50 feet of the burrow until young have fledged. Once it is confirmed that there are no owls inside burrows, these burrows may be collapsed.</p> <p>Timing: Before the approval of grading and improvement plans, before any ground-disturbing activities, and during project construction as applicable for all project phases.</p> <p>Enforcement: City of Rancho Cordova Planning Department.</p> <p>NP: No mitigation measures are required.</p>					
<p>PP, HD, IM, NF: Mitigation Measure 3.10-4d: Prepare and Implement a Swainson’s Hawk Mitigation Plan.</p> <p>The project applicant(s) for all project phases shall implement one of the following measures:</p> <ul style="list-style-type: none"> ▶ Before the approval of grading and improvement plans or before any ground-disturbing activities, whichever occurs first, the project applicant(s) shall preserve, to the satisfaction of the City, suitable Swainson’s hawk foraging habitat to ensure 1:1 mitigation of habitat value for Swainson’s hawk foraging habitat lost as a result of the project, as determined by the City after consultation with DFG and a qualified biologist. 					

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<p>The 1:1 habitat value shall be based on Swainson’s hawk nesting distribution and an assessment of habitat quality, availability, and use within the City’s planning area. If specific data for Rancho Cordova’s Swainson’s hawk habitat are not available at the time that this mitigation measure is being implemented, the mitigation ratio shall be consistent with the 1994 DFG Swainson’s Hawk Guidelines included in the Staff Report Regarding Mitigation for Impacts to Swainson’s Hawks (<i>Buteo swainsoni</i>) in the Central Valley of California. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area and within Sacramento County. The City, after consultation with DFG, will determine the appropriateness of the mitigation land.</p> <p>Before approval of such proposed mitigation, the City shall consult with DFG regarding the appropriateness of the mitigation. If mitigation is accomplished through conservation easement, then such an easement shall ensure the continued management of the land to maintain Swainson’s hawk foraging values, including but not limited to ongoing agricultural uses and the maintenance of all existing water rights associated with the land. The conservation easement shall be recordable and shall prohibit any activity that substantially impairs or diminishes the land’s capacity as suitable Swainson’s hawk habitat.</p> <p>The project applicant(s) shall transfer said Swainson’s hawk mitigation land, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and DFG named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, after consultation with DFG. The City, after consultation with DFG and the Conservation Operator, shall approve the content and form of the conservation easement. The City, DFG, and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to assure compliance with the terms of the easement.</p> <p>The project applicant(s), after consultation with the City, DFG, and the Conservation Operator, shall establish an endowment or some other financial mechanism that is sufficient to fund in perpetuity the operation, maintenance, management, and enforcement of the conservation easement. If an endowment is used, either the endowment funds shall be submitted to the City to be distributed to an appropriate third-party nonprofit conservation agency, or they shall be submitted directly to the third-party nonprofit conservation agency in exchange for an agreement to manage and maintain the lands in perpetuity. The Conservation Operator shall not sell, lease, or transfer any interest of any conservation easement or mitigation land it acquires without prior written approval of the City and DFG.</p> <p>If the Conservation Operator ceases to exist, the duty to hold, administer, manage, maintain, and enforce the interest shall be transferred to another entity acceptable to the City and DFG. The City Planning Department shall ensure that mitigation habitat is properly established and is functioning as habitat by conducting regular monitoring of the mitigation site(s) for the first 10 years after establishment of the easement. OR</p> <ul style="list-style-type: none"> ▶ The project applicant(s) may participate in a future City Swainson’s Hawk Foraging Habitat Ordinance (once adopted) as an alternative to the measure above. OR ▶ The project applicant(s) may participate in a future habitat conservation plan (once adopted) as an alternative to the above measures. 					

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<p>Timing: Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that would affect Swainson’s hawk foraging habitat.</p> <p>Enforcement: City of Rancho Cordova Planning Department.</p> <p>NP: No mitigation measures are required.</p>					
<p>PP, HD, IM, NF: Mitigation Measure: Implement Mitigation Measures 3.10-1a, 3.10-1b, and 3.10-4a to Reduce Impacts on Western Spadefoot Toad. Measures 3.10-1a and 3.10-1b are discussed above under Impact 3.10-1. Mitigation Measure 3.10-4a was discussed previously under this impact (Impact 3.10-4). These measures would ensure no net loss of western spadefoot habitat.</p> <p>Timing: Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that contains vernal pools or other seasonal wetland habitats.</p> <p>Enforcement: City of Rancho Cordova Planning Department.</p> <p>NP: No mitigation measures are required.</p>					
<p>3.10-5: Loss and Degradation of Special-Status Plants and Habitat for Potential Special-Status Plants. Implementation of the project would result in direct and/or indirect impacts on three populations of Greene’s legenera and in the removal of vernal pool grassland, seasonal wetland, and riparian habitat on the project site that have the potential to support special-status plant species.</p> <p>PP, HD, IM: Mitigation Measure 3.10-5: Incorporate Measures to Protect Greene’s Legenera in the Mitigation Monitoring Plan.</p> <p>Direct impacts on the population of Greene’s legenera located within the wetland preserve shall be avoided to the maximum extent feasible.</p> <p>An MMP for Greene’s legenera is being developed on behalf of the project applicant(s) by ECORP Consulting. Before the approval of grading plans or any ground-breaking activity within 250 feet of any Greene’s legenera population, the mitigation plan shall be submitted to the City for review and approval. The plan shall be submitted concurrently to DFG and USFWS for review and comment, and the City may consult with these entities before approval of the plan. The plan is required to maintain viable plant populations on-site and shall include avoidance measures for the existing population to be retained and mitigation measures for the populations to be directly affected. Possible avoidance measures include fencing of the population before construction and exclusion of project activities from the fenced-off areas, and construction monitoring by a qualified botanist to keep construction crews away from the population. Indirect impacts (i.e., changes in hydrology) shall be minimized by placing culverts to the vernal pool where this population occurs, if necessary. Possible mitigation for the two populations of</p>	Direct S	Direct S	Direct PS	LTS	No Direct, No Indirect

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<p>Greene’s legenera that would be removed during construction of the drainage parkway includes the collection of seeds from the existing populations and inoculation of the collected seeds into existing or compensatory vernal pools within the wetland preserve.</p> <p>The mitigation plan proposes that the best option for the successful germination of seeds would be to inoculate existing pools that are similar in size and depth and hydration period, and with similar associated species as the pools that currently support Greene’s legenera. Mitigation for the populations of legenera proposed to be directly affected shall commence before the approval of any plans for, or any ground-breaking activities near, the locations of such legenera populations. Monitoring of the existing population of Greene’s legenera and the seeded populations shall be conducted in conjunction with monitoring of vernal pools for a minimum period of 5 years, as specified in Mitigation Measure 3.10-1.</p> <p>Timing: Before the approval of grading or improvement plans or any ground-breaking activity within 250 feet of any Greene’s legenera population, including grubbing and clearing, for any project development phase. Ongoing monitoring shall occur for a minimum of 5 years following the completion of all construction activities.</p> <p>Enforcement: City of Rancho Cordova Planning Department.</p> <p>NF, NP: No mitigation measures are required.</p>					
<p>3.10-6: Cumulative Biological Resources Impacts. Implementation of the project together with past, present, and reasonably foreseeable future projects would result in a cumulatively significant loss of biological resources in the region. The project’s incremental contribution to this significant cumulative impact is cumulatively considerable.</p>	SU	SU	SU	SU	No Direct, No Indirect

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3.5 UTILITIES AND SERVICE SYSTEMS—WATER SUPPLY

This section is structured in a manner to make clear to agencies, decision-makers, and the public that water for the initial and long-term potable-water needs of the proposed project would come from different sources and would require different conveyance systems. To provide additional clarification for the reader, the discussion of the affected environment is presented first and includes a brief summary of regional and local water supply planning. The regulatory background is presented next; followed by the thresholds of significance, which includes a description of the relationship of the project to recent decisions in applicable California case law along with the applicable thresholds based on Appendix G of the California Environmental Quality Act Guidelines (State CEQA Guidelines); and then the methodology used to analyze potential project impacts related to water supply is presented. Finally, the potential impacts of project implementation on initial and long-term water supplies and conveyance facilities are analyzed; where appropriate, mitigation measures are provided to avoid or minimize impacts to the extent feasible.

To fully evaluate the specific impacts associated with water supply demand and conveyance facilities, this recirculated draft environmental impact report (DEIR)/supplemental draft environmental impact statement (DEIS) separates the initial water supply demands and conveyance facilities and the long-term water supplies and water conveyance facilities into separate impacts at both the program level and the project level. Other available alternatives are identified for both initial and long-term water supplies in the event that the proposed initial or long-term water supplies are delayed or never provided.

3.5.1 AFFECTED ENVIRONMENT

WATER FORUM AGREEMENT

The Water Forum process brought together a diverse group of stakeholders that included water managers, business and agricultural leaders, environmentalists, citizen groups, and representatives of local governments to evaluate available water resources and the future water needs of the Sacramento metropolitan area. The coequal objectives of the Water Forum are (1) to provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and (2) to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. The first objective will be met by additional diversions of surface water for the conjunctive use of surface water and groundwater, expanded water demand management programs, and use of recycled water. The second objective will be met by regulating American River flow patterns (or "modifying" American River flow) to improve instream fish habitat (spawning/hatching/rearing), as well as implementation of the Habitat Management Element of the Water Forum Agreement (WFA).

Demand management/water conservation is essential to meeting the coequal objectives of the WFA. Conservation will reduce the amount of groundwater and surface water (including water from the American River) required for future growth. As a signatory to the WFA and as a water contractor under the U.S. Bureau of Reclamation's (Reclamation's) Central Valley Project (CVP), the Sacramento County Water Agency (SCWA) is committed to implementing the water conservation best management practices (BMPs) defined in the Water Conservation Element of the WFA. Technical studies prepared in support of the WFA indicate that implementation of the BMPs (most notably the provision for water meter retrofits and demand pricing) will result in a demand factor reduction of 25.6% relative to the 1990 baseline by the year 2030.

The 1999 Water Forum EIR evaluated SCWA's water supply needs in combination with other water supply needs in the region. SCWA agreed to a series of actions and commitments related to diversions of surface water, dry-year supplies, fishery flows, habitat management, water conservation, and groundwater management. The 2030 demand and water supplies identified in the Water Forum EIR were used by Sacramento County (County) (in its role as a land use agency) to describe an area of development that could be served by these supplies. The Water Forum EIR evaluated the provision of water for a 30-year planning period based on land use projections. The 2005 Zone 40 Water Supply Master Plan (WSMP) relied on the *County of Sacramento General Plan* to identify

where urban development would occur within the county, consistent with WFA purveyor-specific agreements for water service to those areas.

In Sacramento County, three groundwater subbasins—the North Area (the area north of the American River), Central Area (roughly the area between the American and Cosumnes Rivers), and South Area (generally the area south of the Cosumnes River)—have been identified. Zone 40 lies entirely within the Central Area. Technical studies conducted in support of the WFA provided a basis for defining the negotiated sustainable yield for each of the three Sacramento County subbasins. Based on negotiated levels of acceptable impacts associated with operating the basins at specified extraction volumes, the WFA negotiated a sustainable long-term average annual yield for the Central Area of 273,000 acre-feet per year (afy), including groundwater pumping in the Central Basin.

SACRAMENTO COUNTY WATER AGENCY

SCWA undertook a comprehensive update of its water supply planning process in response to the requirements of the WFA through the Zone 40 WSMP, which was adopted in February 2005 (SCWA 2005a). The purpose of the Zone 40 WSMP was to identify available water and the infrastructure necessary to deliver water to a subarea within Zone 40 known as the 2030 Study Area. The 2030 Study Area encompasses approximately 46,600 acres (including portions of the cities of Elk Grove and Rancho Cordova) where development of industrial, commercial, office, and residential land uses is expected to occur and where demand for water is expected to be concentrated during the planning horizon of the WSMP (i.e., 2030).

As a signatory to the WFA, SCWA has agreed to ensure that water conservation and demand management—necessary steps to achieve WFA objectives—are integrated into future growth and water planning activities in its service area. The Zone 40 WSMP provides a flexible plan of water management options that can be implemented and modified if conditions that affect the availability and feasibility of water supply sources change in the future. The goal of the Zone 40 WSMP is to carry out a conjunctive-use program, which is defined as the coordinated management of surface water and groundwater supplies to maximize the yield of available water resources. The conjunctive-use program for Zone 40 includes the use of groundwater, surface water, remediated water, and recycled water supplies. It also includes a financing program for the construction of a new surface-water diversion structure; surface-water treatment plant; water conveyance pipelines; and groundwater extraction, treatment, and distribution facilities. The Zone 40 WSMP evaluates several options for facilities to deliver surface water and groundwater to development within Zone 40, as well as the financing mechanisms to provide water to the 2030 Study Area.

During development of the Zone 40 WSMP, the general plans for the newly incorporated Cities of Elk Grove and Rancho Cordova were not available; therefore, the *County of Sacramento General Plan* (County of Sacramento 1993) was the planning document used to project growth and development anticipated to occur within an area defined as the Urban Policy Area (UPA). The County's UPA is defined as the area anticipated to build out with urban development within the planning horizon of the general plan (year 2024). This area is known as the 2030 Study Area. The southern boundary of the 2030 Study Area generally coincides with the County's UPA. The 2030 Study Area was delineated based on the County's identified growth areas and the area of land that was planned to be served by the negotiated firm water supply identified in the WFA. Because of the time frame of the Zone 40 WSMP and the likelihood that the UPA would be expanded during the next general plan update (currently under way), SCWA identified four likely areas outside the UPA where urban expansion was logical and could occur; however, SCWA acknowledges that it is not a land use agency and is not responsible for approving growth and development within its service area, and it identified Sacramento County, the City of Rancho Cordova, and the City of Elk Grove as the lead agencies responsible for such decisions. The areas included in the 2030 Study Area were selected based on their adjacency to the UPA. The 2030 Study Area also captured active projects and included the newly incorporated City of Rancho Cordova.

SCWA prepared a DEIR to analyze the impacts of implementing the Zone 40 WSMP. The environmental analysis included an evaluation of how environmental conditions would be expected to change as a result of the Zone 40 WSMP, which includes implementation of a conjunctive-use program of groundwater, surface-water, and recycled-water supplies, as well as a financing program for the construction of a new surface-water diversion structure; surface-water treatment plant; water conveyance pipelines; groundwater extraction, treatment, storage, and distribution facilities; and recycled-water storage and distribution facilities. The DEIR was prepared and circulated for public review in November 2003 (SCH #95082041), and the final environmental impact report (FEIR) was certified and the master plan was approved in 2005. Because there was no legal challenge to the WSMP and its EIR, the EIR is deemed as a matter of law to be adequate under CEQA for its intended purposes. (Public Resources Code, Section 21167.2.)

The Rio del Oro project site lies wholly within Zone 40 and partially within the 2030 Study Area. Although the 2030 Study Area does not cover the entire project site, a portion of the water supply demand (1,500 afy) for this area, identified in the Zone 40 WSMP as the Security Park area, has been included within the Zone 40 WSMP.

Related Water Supply Projects

Since approval of the Zone 40 WSMP (SCWA 2005a), SCWA has pursued and is in various stages of planning several projects that would implement specific elements of the WSMP. These projects are briefly summarized below.

Freeport Regional Water Project

The Freeport Regional Water Authority (FRWA) was created by exercise of a joint-powers agreement between SCWA and the East Bay Municipal Utility District (EBMUD). FRWA's basic purpose is to increase the reliability of water service for customers, reduce rationing during droughts, and facilitate conjunctive use of surface-water and groundwater supplies in central Sacramento County. The FRWA developed the Freeport Regional Water Project (FRWP) to meet the objectives of SCWA and EBMUD.

The FRWP involves construction of a 185-million-gallon-per-day (mgd) intake facility and pumping plant located on the Sacramento River, a reservoir and water treatment plant (WTP), a terminal facility located at the point of delivery to the Folsom South Canal, a canal pumping plant located at the terminus of the Folsom South Canal, an aqueduct pumping plant and pretreatment facility near the Mokelumne Aqueducts/Camanche Reservoir area, and pipelines to deliver water from the intake facility to the Zone 40 Vineyard Surface WTP and to the Mokelumne Aqueduct. (Freeport Regional Water Authority 2003.)

A DEIR/DEIS was prepared and circulated for public review in July 2003 (SCH #2002032132), and the FEIR was certified in April 2004. No legal challenge was filed under CEQA or NEPA. FRWA subsequently completed federal Endangered Species Act (ESA) compliance in fall 2004, leading to Reclamation's issuance of the record of decision in January 2005. Minor adjustments to the project were made after certification of the FEIR, and a supplemental initial study/mitigated negative declaration (IS/MND) was prepared and circulated for public review in February 2006. The supplemental IS/MND was adopted in March 2006.

The project is currently under construction and estimated to be operation in late 2009 or early 2010. Once operational, the FRWP will provide SCWA with up to 85 mgd of surface water from the Sacramento River that would be conveyed by FRWA to SCWA's Vineyard Surface WTP. The remaining 100 mgd of the 185 mgd diverted from the Sacramento River would be conveyed past the Vineyard Surface WTP by EBMUD to the Folsom South Canal, which would convey the water to the Mokelumne Aqueduct for use within EBMUD's service area during dry years.

Vineyard Surface Water Treatment Plant

SCWA will construct the Vineyard Surface WTP (previously referred to as the Central Surface WTP) and associated water supply facilities to provide potable water to existing and approved future development within the SCWA Zone 40 area. The Vineyard Surface WTP would be located west of the intersection of Florin and Excelsior Roads, at the northeast corner of Florin and Knox Roads in Sacramento County.

The objective of constructing the Vineyard Surface WTP is to provide capacity for treating 100 mgd of raw surface water and remediated groundwater, and to serve approved land uses in the Zone 40 service area. Water would be diverted from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment and delivery to SCWA Zone 40. After the water is treated at the Vineyard Surface WTP, it would be delivered to the project site through the North Service Area Pipeline Project (NSAPP).

The environmental impacts of the construction and operation of the Vineyard Surface WTP were analyzed at a programmatic level in the Zone 40 WSMP, and at a project-level in an IS/MND (SCH #20047092050), which was circulated for public review in September 2004. The IS/MND was adopted by the County on October 10, 2004. SCWA awarded a contract for construction of the Vineyard Surface WTP in January 2008. Construction is estimated to begin in spring 2008 and the plant is anticipated to be operational in 2011, with full buildout by 2029 (SCWA 2007b).

Eastern County Replacement Water Supply Project

The SCWA is proposing the Eastern County Replacement Water Supply Project (RWSP) in eastern Sacramento County. The RWSP would consist of a system of conveyance facilities (i.e., pipelines and pump stations) to transport remediated water from groundwater extraction and treatment (GET) facilities to surface streams with discharge points along the American River. The GET-remediated water would be diverted at Reclamation's Folsom South Canal, the City of Sacramento's Fairbairn WTP diversion, and the FRWP intake structure (currently under construction) on the Sacramento River, downstream of the American River confluence. Diverted GET-remediated water would be delivered to the Golden State Water Company (GSWC) and the Cosumnes River via the Folsom South Canal, Cal-American Water Company (Cal-Am) via the Fairbairn diversion, and SCWA wholesale and retail customers via the FRWP intake structure. No new diversion facilities are part proposed as part of the RWSP. Under the proposed RWSP, water for SCWA users would be diverted at the FRWP and treated at the Vineyard Surface WTP. As discussed above, those facilities have already undergone CEQA environmental review and are under construction.

The DEIR (SCH #2004042122) for the RWSP was circulated for public review in October 2006. The DEIR comment period has closed, but currently there is no date scheduled for consideration of approval and certification of a FEIR. As more discussed below, SCWA does not anticipate implementing the RWSP in its entirety as described in the DEIR and will be seeking changes to the current Aerojet-County Agreement, discussed below.

North Service Area Pipeline Project

Water would be conveyed from the Vineyard Surface WTP to the North Service Area via the NSAPP. The preferred alignment would begin at the Vineyard Surface WTP and continue east along Florin Road. At the intersection of Florin Road and Eagles Nest Road, the pipeline would head north along Eagles Nest Road, which transitions into Zinfandel Road at the intersection of Douglas Road. The pipeline continues north along Zinfandel Road to a storage tank and pump station just north of Douglas Road and adjacent to the east side of the Folsom South Canal. In addition to providing water supplies to the project (including the Cal-Am portion where wholesale Zone 40 water supplies would be delivered), the NSAPP would also serve the Mather, Sunrise Corridor, Sunrise Douglas, and Westborough areas.

A proposed North Service Area pipeline alignment was identified in the 2005 Zone 40 WSMP EIR, and the environmental impacts of the construction of the pipeline were analyzed at a programmatic level in the Zone 40

WSMP. The NSAPP has not undergone project-level CEQA review, but SCWA expects that an EIR for the NSAPP will be prepared in 2008. The date that this pipeline would be in service is currently unknown, but is estimated at 2014.

Related Water Supply Planning Documents

In addition to the Zone 40 WSMP, SCWA has adopted other comprehensive water supply planning documents intended to work together to form the planning basis for the Zone 40 service area. These documents are briefly summarized below.

Central Sacramento County Groundwater Management Plan

The Central Sacramento County Groundwater Forum was initiated in 2002 by the Water Forum Successor Effort to carry out a portion of the Water Forum's mission to develop a groundwater management program to protect the health and viability of the central Sacramento County groundwater basin for both current users and future generations.

The Central Sacramento County Groundwater Forum developed the *Central Sacramento County Groundwater Management Plan* (February 2006) (CSCGMP), which sets forth objectives for managing the groundwater basin underlying Zone 40 and establishes parameters for monitoring the performance of the management strategies. The CSCGMP is intended to adapt to changing conditions within the groundwater basin and to be updated and refined to reflect progress made in achieving the CSCGMP objectives.

Zone 40 Groundwater Management Plan

SCWA prepared a groundwater management plan (SCWA 2004b) for Zone 40. Although groundwater management plans are typically prepared for entire groundwater basins (in this case the Central Basin), SCWA's groundwater management plan addresses only the boundaries of Zone 40, which encompasses most but not all of the Central Basin. The goal of the plan is to ensure a viable groundwater resource for beneficial uses, including water for adjacent purveyors; and agricultural, residential, industrial, and municipal supplies that support the WFA's coequal objectives of providing a reliable and safe water supply and preserving the fishery, wildlife, recreational, and aesthetic values of the lower American River. In addition, the plan promotes the enhancement of maintaining ecological flows in the Cosumnes River. The Zone 40 groundwater management plan is now superseded by the CSCGMP. However, before the CSCGMP, groundwater management within Zone 40 by SCWA was based on the Zone 40 groundwater management plan.

2005 Zone 41 Urban Water Management Plan

The *2005 Zone 41 Urban Water Management Plan* (Zone 41 UWMP) (SCWA 2005b) was prepared by SCWA and adopted by the SCWA Board of Directors on December 6, 2005. The plan addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled-water usage for the areas within Sacramento County where Zone 41 provides retail water services, including the Zone 40 service area and other areas outside of Zone 40 where Zone 41 has contracts to provide water (e.g., Zone 50, Sacramento Suburban Water District). Zone 41 is responsible for the operations and maintenance of all the water supply facilities within the defined service area and retails and wholesales water to its defined service area and to agencies where agreements are in place to purchase water from SCWA. The water demands for the proposed project, which were identified in the Zone 40 WSMP, are included in the Zone 41 UWMP.

Because SCWA's conjunctive-use groundwater program would be implemented only within Zone 40, the Zone 41 UWMP presents information about projected water supply and demand separately for areas within Zone 40 and areas outside of Zone 40. However, the Zone 41 UWMP does not specifically describe how projected future water supplies would be allocated within the Zone 40 region (e.g., how water would be allocated to the city of Rancho Cordova).

Zone 40 Water System Infrastructure Plan

To build on the 2005 Zone 40 WSMP, SCWA prepared the *Zone 40 Water System Infrastructure Plan* (November 2006) (Zone 40 WSIP) that addresses how identified 2030 water supplies addressed in both the Zone 41 Urban Water Management Plan (UWMP) and the Zone 40 WSMP would be allocated among users within its service area. The WSIP provides the most up-to-date information on Zone 40's water supplies, demands, and infrastructure; provides project-level detail that is necessary for implementation of the preferred pipeline alignment alternatives; and it also fills in the gaps of associated smaller infrastructure requirements, including a description of facility construction and phasing as well as operational requirements from existing conditions through ultimate buildout of the water system. As such, it is not a document that is formally adopted, and the plan is not required to go through environmental review pursuant to CEQA.

The Zone 40 WSIP divides the Zone 40 service area into three major subareas for planning purposes. From east to west, these areas are identified as the North Service Area, the Central Service Area, and the South Service Area. A portion of the City's planning area, including the project site and areas identified as Mather, Sunrise Corridor, Sunrise Douglas, and Westborough, are located within the boundary of the North Service Area.

Related Water Supply Agreements

In addition to the Zone 40 WSMP, SCWA has entered into agreements that require delivery of water to purveyors and for beneficial uses. These agreements are briefly summarized below.

GET Remediated Water and the Agreement between Sacramento County, the Sacramento County Water Agency, and Aerojet General Corporation

Aerojet General Corporation (Aerojet) currently extracts and treats contaminated groundwater at various GET facilities at or near its property in eastern Sacramento County. The GET facilities are operated under one or more directives from the U.S. Environmental Protection Agency (EPA), the Central Valley Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control (DTSC). The directives require extraction of contaminated groundwater, treatment of the groundwater, and appropriate discharge of treated groundwater, principally to the American River. The GET facilities currently extract, treat, and discharge to the American River approximately 15,000 afy of GET-Remediated Water, and these facilities are being expanded under government oversight over the next several years to extract, treat, and discharge more than 26,000 afy. Additionally, there are two other GET facilities (also under environmental agency oversight) that presently discharge to Morrison Creek, but can, through construction of new pipelines, discharge to the American River. One of the GET facilities discharging to Morrison Creek is operated by McDonnell Douglas Corporation (MDC)/Boeing, which, along with Aerojet, is obligated to remediate groundwater migrating from portions of property formerly owned by MDC/Boeing and currently owned by Aerojet. Upon completion of all planned GET facilities, and if the water currently discharging to Morrison Creek is redirected to the American River through pipelines, more than 35,000 afy of treated groundwater would be discharged to the American River.

GET-Remediated Water is currently discharged to the American River and is available for diversion at the FRWP on the Sacramento River under agreement between Aerojet and SCWA authorizing that diversion. The agreement, which was entered in 2003, grants to SCWA the GET-Remediated Water discharged to the American River. In exchange for this water, among other matters, SCWA agreed to provide replacement water to GSWC and Cal-Am through a replacement water supply project and to provide water for development for the Aerojet properties (including Rio del Oro) in excess of the replacement water-supply obligations. (*Agreement Between Sacramento County, The Sacramento County Water Agency, and Aerojet General Corporation with Respect to Groundwater and Related Issues within the Eastern Portion of Sacramento County* [August 27, 2003]) (Aerojet-County Agreement).

The Aerojet-SCWA Agreement allowed either party to terminate the agreement if SCWA has not certified the FEIR and approved the RWSP by a specified date. The specified date has now passed. Neither party has yet acted

to terminate the Aerojet-County Agreement and it currently remains in effect; however, SCWA has informed Aerojet that it will require changes to the Aerojet-County Agreement and that it does not anticipate implementation of the RWSP in its entirety as currently described in the RWSP DEIR.

SCWA also entered into an agreement with MDC/Boeing under which SCWA would be granted GET-Remediated Water allocable to MDC/Boeing from the facility that MDC/Boeing operates (*Agreement Between Sacramento County, The Sacramento County Water Agency, and McDonnell Douglas Corporation with Respect to Groundwater and Related Issues within the Eastern Portion of Sacramento County* [August 29, 2003]) (MDC-County Agreement). The MDC-County Agreement contained a different termination clause, and that agreement has been terminated because SCWA had not approved the RWSP by a date specified in that agreement. The water that was contemplated under this MDC-County Agreement is not necessary for the Rio del Oro project.

Approval and implementation of the RWSP by SCWA as described in the RWSP DEIR is not required for GET-Remediated Water to be available to SCWA to meet Rio del Oro's demand in addition to SCWA's existing and other projected future demands. The GET-Remediated Water is already being discharged to the American River at quantities sufficient to meet this increased demand from Rio del Oro and could be made available to SCWA at FRWP through implementation of the Aerojet-County Agreement, a modified agreement, or a new agreement.

Golden State Water Company Agreement

Aerojet and GSWC entered in a Master Settlement Agreement (MSA) under which both parties agreed to Aerojet's obligations to provide replacement water, as needed, for supply lost as a result of groundwater contamination from past activities by Aerojet. The MSA contains a contingency plan under which Aerojet and GSWC have reached agreement on certain actions, and which provides for a mechanism to resolve disputes if changes in the contingency plan are required. GSWC entered into a water supply agreement with Sacramento County and SCWA concurrent with the MSA. The water supply agreement assists with the implementation of the MSA, and the Aerojet-County Agreement by establishing the terms and conditions under which SCWA would be responsible for providing replacement groundwater to GSWC. The agreements provide a negotiated solution to sharing the groundwater resources in this portion of Sacramento County. The water supply agreement requires that the County approve a replacement water supply project (as such the County has circulated the RWSP DEIR). Should the RWSP be approved, the water supply agreement requires SCWA to make replacement water available to GSWC, the SCWA would be required to deliver 5,000 afy of replacement water to GSWC's intake facilities on the Folsom South Canal. GSWC's need for additional replacement water (i.e., water amounts greater than 5,000 afy) would be determined annually in a meet-and-confer session with SCWA. Regardless of demonstrated need, GSWC's total maximum allocation of replacement water supply in any year could not exceed 15,200 acre-feet (af) (i.e., 5,000 afy delivered to GSWC at the Folsom South Canal plus a maximum of 10,200 afy through FRWP facilities). (City of Rancho Cordova 2006b, Golden State Water Company 2005.)

Cal-Am Agreement

Currently, no separate replacement water supply agreement exists between SCWA and Cal-Am. To the extent that the County is obligated to provide replacement water to Cal-Am under the Aerojet-County Agreement (or modified agreement), it is the intent of SCWA to negotiate such an agreement. SCWA has been working cooperatively with the City of Sacramento to investigate ways to deliver Place of Use (POU) surface water (or replacement water in dry years) to Cal-Am's service area, which lies within the POU (this includes up to 5,000 afy of either POU or replacement water). This would allow groundwater currently being extracted in the POU area to be imported into areas affected by groundwater contamination within Zone 40. (City of Rancho Cordova 2006b.)

Lower Cosumnes River Environmental and Water Management MOA

The *Memorandum of Agreement for the Management for Water and Environmental Resources Associated with the Lower Cosumnes River* has been entered into by SCWA, the Southeast Sacramento County Agricultural Water

Authority, and The Nature Conservancy (TNC). The goal of the memorandum of agreement (MOA) is to restore and maintain key functions of the Cosumnes River corridor while furthering conjunctive use in the agricultural areas between the American and Cosumnes Rivers and from the Cosumnes River to the southern boundary of Sacramento County. The signatories to the MOA seek to ensure the viability of both the agricultural economic base and ecosystems associated with the Cosumnes River. Through the MOA, the signatories are committed to working together to enhance conjunctive use within the region to reduce groundwater pumping and improve flow conditions in the Cosumnes River. The proposed project would make available approximately 5,000 afy to SCWA, which would make the water available to TNC. TNC would need to obtain the necessary agreements to divert the water from Folsom South Canal to the Cosumnes River for supplemental flows on a schedule that is beneficial for fisheries enhancement and groundwater recharge.

Existing and Projected Water Demands for SCWA Zone 40

As part of the Zone 40 WSMP, water demand was calculated for various land uses within the 2030 Study Area. Table 3.5-1 identifies existing and projected land uses and water demands for 2000 and 2030 within SCWA's Zone 40 2030 Study Area.

Land Use Category	Year 2000 Land Use and Water Demand			Year 2030 Water Demand		
	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)
Rural Estates	1.57	304	477	1.33	718	955
Single-Family	3.40	3,387	11,516	2.89	14,867	42,966
Multifamily—Low Density	4.36	285	1,243	3.70	1,173	4,340
Multifamily—High Density	4.85	0	0	4.12	0	0
Commercial	3.24	254	823	2.75	1,042	2,866
Industrial	3.19	1,257	4,010	2.71	2,395	6,490
Industrial—Unutilized	0.00	0	0	0.00	1,463	0
Public	1.22	692	844	1.04	4,349	4,523
Public Recreation	4.08	400	1,632	3.46	2,865	9,913
Mixed Land Use	2.95	840	2,478	2.51	12,985	32,592
Developed Land Use		7,419	23,023		41,857	104,645
Right-of-Way	0.25	726	182	0.21	2,526	530
Water Use Subtotal			23,205			105,175
Water System Losses (7.5%)			1,740			7,888
Zone 40 Water Production			24,945			113,063
Urban and rural areas not currently being served by Zone 40		5,127	NA		0	NA
Vacant		27,583	NA		2,225	NA
Agriculture		5,766	NA		12	NA
Total Land and Water Use		46,621	24,945		46,620	113,063
Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year; NA = not applicable; SCWA = Sacramento County Water Agency. SCWA Zone 40 does not supply water to meet agricultural demand within its Zone 40 service area. Agricultural water demand within Zone 40 would be in addition to urban water demand.						
Minor discrepancies in acreage totals are a result of rounding in land use data.						
Source: SCWA 2005a						

The project site lies wholly within Zone 40, and a portion (1,505 acres) of the project site lies within the 2030 Study Area. Specifically, this portion falls within what SCWA identified in the Zone 40 WSMP as the Security Park area, where a water demand of 1,500 afy was assumed. (The Security Park region of the WSMP includes both the Security Park and lands immediately surrounding it, and therefore includes some of the lands that are located within the project site. However, the Security Park itself is not part of the project site.) The remaining water demand for the project site would be met with GET-Remediated Water and infrastructure made available through the FRWP and NSAPP.

Water Supply Sources for SCWA Zone 40

The Water Forum has defined conjunctive use as “the planned joint use of surface and groundwater to improve overall water supply reliability.” Since its formation, Zone 40 has had as its goal the development of a conjunctive-use water supply system. As such, the areas inside Zone 40 are served conjunctively with groundwater (pumped from the Central Basin), surface water, recycled water, and remediated water (GET-Remediated Water). Available surface-water supplies would be maximized in wet years; groundwater supplies would be maximized in dry years through increased pumping at SCWA’s groundwater facilities. In all consecutive dry years, water-demand management programs would be implemented to a higher degree (e.g., greater conservation, reduced outdoor use) to reduce the potential impacts from increased extraction of groundwater.

Table 3.5-2 summarizes SCWA’s Zone 40 current and planned water supplies for normal water years (i.e., years when rainfall and water supply represent the long-term average). The following discussion identifies and characterizes the water supply sources that will be used to meet projected demands within Zone 40 (not including GET-Remediated Water).

Table 3.5-2 Water Supplies for SCWA Zone 40¹	
Component of Water Supply	Average Annual Supply (afy)
Surface Water ²	68,637
Groundwater	40,900
Recycled Water	4,400
Total Supplies	113,937
Notes: afy = acre-feet per year; SCWA = Sacramento County Water Agency ¹ This table presents Zone 40 water supply sources only. It does not account for any available groundwater extraction and treatment (GET)–Remediated Water supply. ² The total estimated average annual supply of surface water is the sum of existing entitlements and proposed future entitlements. Sources: SCWA 2005a, 2005b	

SURFACE-WATER SUPPLIES FOR SCWA ZONE 40

SCWA surface-water supplies come from the American and Sacramento Rivers. The components of the surface-water supply in Zone 40 are shown in Table 3.5-3 and described below. SCWA’s total estimated long-term average annual supply of surface water (existing entitlements and proposed future entitlements) is 68,637 afy.

**Table 3.5-3
Existing and Proposed Supplies of Surface Water for SCWA Zone 40**

Component	Water Source	Existing or Proposed Future Supply	Entitlement Amount (afy)	Estimated Long-Term Average Supply (afy)
SMUD Assignment	American River	Existing	30,000	26,000
“Fazio” Water (PL 101-514)	American River	Existing	15,000	13,551
Appropriative Water Supplies	Sacramento River	Planned ¹	Undetermined	14,586
Other Transfer-Water Supplies	American River	Planned	Undetermined	5,200
City of Sacramento Wholesale Water Agreement to Supply that Portion of Zone 40 within the City’s American River POU	American River	Planned ¹	9,300	9,300
Total Surface Water				68,637
Notes: afy = acre-feet per year; PL = Public Law; POU = Place of Use; SCWA = Sacramento County Water Agency; SMUD = Sacramento Municipal Utility District; ¹ Per SCWA, final agreement for this water is expected to be negotiated by spring 2008. Sources: SCWA 2005a, 2005b; Coppola, pers. comm., 2008				

Existing Central Valley Project Water Supply Entitlements for SCWA Zone 40

SMUD Assignment

Under the terms of a three-party agreement (SCWA, Sacramento Municipal Utility District [SMUD], and the City of Sacramento), the City of Sacramento provides surface water to SMUD for use at two of SMUD’s cogeneration facilities. SMUD, in turn, has assigned 15,000 afy of its CVP contract water to SCWA for municipal and industrial use. Each of these contracts remains in effect until they expire in 2010.

SMUD’s WFA purveyor-specific agreements directs SMUD to assign a second 15,000 afy of surface water to SCWA for municipal and industrial uses, and to enable SCWA to construct groundwater facilities to provide water needed to meet SMUD’s demand of up to 10,000 afy at its cogeneration facility during water shortages in dry years.

Central Valley Project Water (Public Law 101-514 [“Fazio Water”])

In April 1999, SCWA executed a CVP water-service contract pursuant to Public Law 101-514 (referred to as “Fazio water”) that provides a permanent water supply of 22,000 afy, with 15,000 afy allocated to SCWA and 7,000 afy allocated to the City of Folsom. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) issued biological opinions (BOs) on the contract in accordance with the federal ESA. Reclamation issued a record of decision on the water service contracts on April 7, 1999. The BO issued by NMFS limited the water diversion amount to 7,200 afy until new fish screens were installed at the City of Sacramento’s Sacramento River water treatment plant. Construction of a fish screen was completed in 2004 for the City of Sacramento’s municipal intake facility along the Sacramento River, and now the full contract amount of 15,000 afy is available and authorized through the contract. This screen protects outmigrating spring-, fall-, and winter-run chinook salmon; Central Valley steelhead; Delta smelt; Sacramento splittail; and resident game and nongame fish from entrainment. SCWA began taking delivery of the Fazio water in 1999 at the City of

Sacramento's Franklin connection through a long-term wheeling agreement with the City of Sacramento. This contract remains in effect until it expires in 2024.

SCWA's Planned Entitlements to Surface-Water Supply

Appropriative Water Supplies

SCWA has submitted an application to the State Water Resources Control Board (SWRCB) for appropriation of water from the Sacramento River (the County Board of Supervisors authorized submittal of this application on June 13, 1995). This water is considered "intermittent water" that typically would be available during normal years or wet years (i.e., years when rainfall, and hence water supply, are greater than average). This water could be used to meet system demand, and it could possibly be used for future groundwater recharge through recharge-percolating groundwater basins or direct injection of surface water into the aquifer. The maximum, minimum, and average annual use of appropriative water is 71,000 af, 0 af, and 21,700 af, respectively. In close to 30% of the years, 12,000 af or less of appropriative water is used. The FRWP and Vineyard Surface WTP would be used to deliver the surface water. SCWA expects that final agreement for this water will be negotiated by spring 2008 (Coppola, pers. comm., 2008).

City of Sacramento's American River Place of Use Agreement

SCWA is pursuing an agreement under which the City of Sacramento would wholesale American River water to SCWA for use in a portion of the SCWA 2030 Study Area that lies within the City of Sacramento's American River POU. The estimated long-term average volume of water that would be used by SCWA within this POU would be approximately 9,300 afy. SCWA expects that final agreement for this water will be negotiated by spring 2008 (Coppola, pers. comm., 2008).

Other Transfer Supplies

SCWA is pursuing purchase and transfer agreements with other entities north of its service area in the Sacramento River basin. SCWA's estimated long-term average use of these water supplies would be approximately 5,200 afy. This water would be purchased only in dry and critically dry years. None of these agreements have been executed at this time; they are still in the preliminary negotiation stage.

Surface-Water Supplies for Dry Years

In wet and normal water years, SCWA would divert surface water from the American and Sacramento Rivers consistent with the entitlement contracts described above. The underlying groundwater basin would be replenished in wet years as a result of this reliance on surface water. In dry water years, SCWA's surface water could be reduced based on recommended dry-year cutback volumes outlined in the WFA—those volumes that purveyors have agreed to not divert from the American River during dry years. During dry years, SCWA would increase groundwater pumping so that it could continue to meet customers' water demand, and it would implement a water-shortage contingency plan that would result in a 28% reduction in water demand (SCWA 2005b).

Groundwater within SCWA Zone 40

The Central Area groundwater subbasin (i.e., the Central Basin) corresponds to the South American Sub-Basin (California Department of Water Resources [DWR] Basin Number 5-21.65) and is located between the American River and the Cosumnes River. Zone 40 is located within the Central Basin.

Groundwater in the Central Basin is classified as occurring in a shallow aquifer zone or in an underlying deeper aquifer zone. Within Zone 40, the shallow aquifer extends to approximately 200–300 feet below the ground surface; in general, the water quality in this zone is considered good, except for the occurrence of low levels of

arsenic in some locations. The shallow aquifer is typically used for private domestic wells and requires no treatment unless naturally occurring arsenic is encountered.

The deep aquifer is semiconfined by and separated from the shallow aquifer by a discontinuous clay layer. The base of the deep aquifer averages approximately 1,400 feet below the ground surface. Water at the base of the deep aquifer has higher concentrations of total dissolved solids. Iron and manganese typically found in the deep aquifer are at levels requiring treatment. Groundwater used in Zone 40 is supplied from both the shallow and deeper aquifer systems.

Recharge to the aquifer system occurs along river and stream channels where extensive sand and gravel deposits exist, particularly along the American, Cosumnes, and Sacramento River channels. Additional recharge occurs along the eastern boundary of Sacramento County at the transition point from the consolidated rocks of the Sierra Nevada.

Groundwater elevations through much of the Central Basin generally declined from the 1950s to about 1980 by about 20–30 feet. From 1980 to 1983, water levels recovered by about 10 feet and remained stable until 1987, which was the beginning of the 1987–1992 drought. From 1987 to 1995, water levels declined by about 15 feet. From 1995 to 2003, most water levels recovered to higher levels than before the 1987–1992 drought. Much of this recovery can be attributed to increased use of surface water in the Central Basin and the fallowing of previously irrigated agricultural lands for development of urban uses.

Groundwater Supplies in SCWA Zone 40

SCWA currently exercises and will continue to exercise its rights as a groundwater appropriator and will extract water from the Central Basin for the beneficial use of its customers. As a signatory to the WFA, SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin (i.e., 273,000 afy) recommended in the WFA. Total groundwater pumping (i.e., urban and agricultural pumping) within the Central Basin is approximately 248,500 afy, of which approximately 59,700 afy is pumped within Zone 40 (agricultural demand, 21,900 afy; urban demand, 37,800 afy) (SCWA 2005a). The remaining groundwater is pumped by the City of Sacramento, Elk Grove Water Service, Cal-Am, GSWC, and private and agricultural pumpers. Projected groundwater pumping volumes from the Central Basin in 2030 would range from 235,000 afy to 253,000 afy for urban and agricultural demands (SCWA 2005a). Of that amount, it is projected that SCWA Zone 40 would pump an average of 40,900 afy to meet urban water demand within Zone 40 through 2030 (Table 3.5-4).

Table 3.5-4 Existing and Projected Average Groundwater Supply in Zone 40			
Water Source	Estimated Maximum Use (afy)	Estimated Long-Term Average Use (afy)	Reliability
Groundwater extracted from the Central Basin pursuant to the Zone 40 WSMP	69,900	40,900	High ¹
Notes: afy = acre-feet per year; Central Basin = Central Area groundwater subbasin; SCWA = Sacramento County Water Agency; WSMP = <i>Water Supply Master Plan</i> .			
¹ The reliability of this water source is considered “high” because SCWA is a groundwater appropriator and existing and projected future pumping scenarios would not exceed the sustainable yield of the Central Basin.			
Source: SCWA 2005a			

Potential Future Groundwater Supplies in SCWA Zone 40

Additional Groundwater Pumping

The Zone 40 WSMP evaluated a suite of options for the conjunctive-use water supply system, including surface-water entitlements, groundwater, and GET-Remediated Water from the Aerojet and MDC/Boeing properties. Within the suite of groundwater and surface-water supplies contemplated in the EIR for the Zone 40 WSMP, SCWA evaluated the impacts of groundwater extraction that would occur as a result of remediation activities by Aerojet and MDC/Boeing. At the time the EIR for the Zone 40 WSMP was being prepared (2003–2004), groundwater extraction volumes at the Aerojet and MDC/Boeing properties totaled an estimated 18,664 afy. Based on existing agreements at that time, the WSMP EIR projected that groundwater extraction rates would increase to an estimated 35,890 afy by 2030 (see Table 6.3 of Appendix F of the EIR for the Zone 40 WSMP). These projected future groundwater-extraction volumes for the Aerojet and MDC/Boeing properties were evaluated to determine whether these volumes, when combined with other groundwater pumping in Zone 40 and other groundwater pumping in the Central Basin, would exceed the negotiated sustainable yield of the Central Basin (i.e., 273,000 afy) as determined through the WFA stakeholder process. (See Alternatives 2a, 2b, 2c, and 3 in Appendix F of the EIR for the Zone 40 WSMP.) The EIR for the Zone 40 WSMP concluded that under various scenarios contemplating different levels of reuse of the estimated 35,890 afy of remediated groundwater, groundwater extraction volumes within the Central Basin would be slightly less than the negotiated sustainable yield, and groundwater levels would be higher than the minimum levels determined by the WFA. At the time the EIR for the Zone 40 WSMP was prepared, remaining groundwater-pumping capacity within the Central Basin varied from 20,000 afy to 40,000 afy. In the future, groundwater extraction rates at the Aerojet and MDC/Boeing facilities may exceed the estimated 2030 extraction rate (i.e., 35,890 afy) because of the need to better contain plumes. Going forward, the parties will determine whether this additional remediated groundwater be available to serve new development within the SCWA service area. In addressing this question, the parties will make inquiries regarding whether the additional pumping volumes would be within remaining sustainable-yield pumping capacity, whether these volumes would cause total groundwater pumping volumes within the Central Basin to exceed the negotiated sustainable yield, and whether these extraction rates would have greater impacts on groundwater hydrology (e.g., elevations, cone of depression) within Zone 40. Additional pumping to supply new development would occur only if it was within the sustainable yield.

Improved Sustainability of Groundwater

An opportunity may exist to investigate the sensitivity of the Central Basin's negotiated sustainable yield and determine whether any additional pumping capacity may exist without causing the basin to become overdrafted. The sustainable yield for the Central Basin was negotiated by a variety of stakeholders through the Water Forum process. The City of Rancho Cordova would need to coordinate with the Water Forum successor effort—the Central Sacramento County Groundwater Forum—and other groundwater appropriators to scientifically and comprehensively evaluate whether the Central Basin could support a higher yield (more than 273,000 afy) while still maintaining the objectives of the WFA.

If it is determined that a higher yield could be supported, there may be additional long-term water supplies that could serve new development within the Central Basin. A portion of these supplies may be available to serve the project. However, the feasibility of this water supply source and the volume of available water supply are currently unknown and cannot be determined with any certainty based on the analysis provided in existing environmental documents (e.g., the EIRs for the WFA and the Zone 40 WSMP). The impacts of additional pumping would need to be evaluated through a separate environmental review process. This option would be utilized only if the additional pumping necessary to supply the project is within the sustainable yield. The Rio del Oro project area does not depend on this supply and is not intending to rely on this supply as others are more certain and readily available.

GET-Remediated Groundwater

Aerojet currently extracts and treats groundwater for contaminants at various GET facilities at or near its property in Eastern Sacramento County. The GET facilities are operated under one or more directives from the EPA, the Central Valley RWQCB, and DTSC. These directives require extraction of contaminated groundwater, treatment of the groundwater, and appropriate discharge of treated groundwater, principally to the American River. The GET facilities currently extract, treat, and discharge to the American River approximately 15,000 afy of GET-Remediated Water; the facilities are being expanded under government oversight over the next several years to extract, treat, and discharge more than 26,000 afy. Additionally, there are two other GET facilities (also under environmental agency oversight) that presently discharge to Morrison Creek, but that can discharge to the American River if new pipelines are constructed. One of the GET facilities discharging to Morrison Creek is operated by Boeing/MDC. (MDC/Boeing and Aerojet are obligated to remediate groundwater migrating from portions of property formerly owned by MDC/Boeing and currently owned by Aerojet.) Upon completion of all planned GET facilities, and if the water currently discharging to Morrison Creek is redirected to the American River through pipelines, more than 35,000 afy of treated groundwater would be discharged to the river. Approximately 15,000 afy of GET-Remediated Water is currently discharged to the American River and is currently available for diversion at the FRWP on the Sacramento River under the terms of an agreement between Aerojet and SCWA.

Reasonable Likelihood of Zone 40 Water Supplies

The sufficiency of the “firm” Zone 40 WSMP groundwater supplies to supply all users in the Zone 40 area is illustrated by the hydrologic modeling in the 2005 Zone 40 WSMP. As detailed in the Rio del Oro Water Supply Assessment (WSA) (SCWA 2006a), the hydrologic effects of implementing the 2005 Zone 40 WSMP were analyzed using the Sacramento County Integrated Groundwater Surface Water Model (IGSM) (WRIME 2003). The IGSM was originally developed in the early 1990s to analyze the impacts of different water supply planning scenarios on the groundwater resources of Sacramento County. Based on its theoretical foundation, past applications, and sensitivity testing, the IGSM model was determined by SCWA to be the appropriate tool for assessing the impacts of the Zone 40 WSMP. The IGSM model runs performed to analyze the effects of the Zone 40 WSMP evaluated the 2030 Study Area, as well as surrounding areas, to assess the overall impacts on the groundwater basin under existing conditions as well as 2030 conditions for different combinations of surface water and groundwater use. The IGSM model evaluated two basic scenarios: the 2000 Baseline Condition and the 2030 Condition.

The 2000 Baseline Condition represents the long-term effect of water demand and supply conditions at the 2000 level of development, held constant over a 74-year period of historical hydrology. The 2030 Condition represents the long-term effects of the 2030 level of development over the 74-year period of historical hydrology. The 2030 Condition assumes development of approved specific plans and associated reductions in agricultural acreage and water demand in Zone 40 and increases in surface-water supplies to satisfy the increased urban demand. Groundwater pumping would still be used to supplement water supplies for urban areas and to meet agricultural demand.

The model runs for the 2030 Condition were conducted to illustrate potential effects related to all of the following:

- ▶ groundwater pumping locations (pumping within the subarea of use, pumping concentrated in the northern portion of Zone 40, pumping concentrated in the southern portion of Zone 30, and a uniform pumping scenario),
- ▶ variable volumes of reuse of remediated groundwater,
- ▶ increases in surface water from availability of appropriate water, and
- ▶ enhancement of Cosumnes River flows.

The modeling evaluated projected pumping within the groundwater basin by SCWA as well as all other water users, including those for agriculture. The results of the groundwater model indicate that in 2030, approximately 74,000 afy of groundwater is expected to be pumped by SCWA and private urban and agricultural water users for use in the Zone 40 2030 Study Area.

This volume, combined with other pumping in the Central Basin (including pumping for groundwater remediation), would be less than the WFA sustainable-yield recommendation of 273,000 afy for all modeled scenarios that assume some level of reuse of remediated groundwater. Assuming such reuse, average groundwater levels in the northern Zone 40 area would increase by about 4 feet, while those in the southern Zone 40 area would decrease by about 1 foot. (WSMP, Appendix F, p. 6-21.) Stabilized groundwater elevations at the Central Basin's cone of depression under the modeled scenarios would range from approximately 50 feet below mean sea level (msl) to 84 feet below msl, which are all substantially higher than the WFA projected level of 116 feet below msl to 130 feet below msl.

Groundwater pumping associated with the Zone 40 WSMP would not cause sustainable-yield recommendations to be exceeded. Therefore, groundwater levels at the Central Basin cone of depression are projected to be higher than those determined to be acceptable to the Water Forum, and this impact was considered less than significant in the EIR for the Zone 40 WSMP.

With implementation of the Zone 40 WSMP, Zone 41 UWMP, and Zone 40 WSIP, SCWA Zone 40 would be served with reliable, long-term groundwater supplies. SCWA has secured (and is in the process of securing additional) surface water entitlements that would allow SCWA to meet its projected 2030 water demands. SCWA intends to continue to extract groundwater to meet its customer demands within the limits of the negotiated sustainable yield of the Central Basin. In addition, SCWA has the transfer of ownership rights of GET Remediated Water discharged by Aerojet for beneficial use within Zone 40. Therefore, SCWA's groundwater supplies are considered reliable, as are those surface water supplies for which SCWA enjoys existing CVP contracts (the SMUD and Fazio supplies), and there is reasonable likelihood that these water supplies will continue to be available.

Circumstances Affecting the Likelihood of Long-Term Water Supplies

Competing Users

Because Zone 40 water is allocated on a first-come, first-served basis, the water available to the project under the Zone 40 WSMP and the Zone 41 UWMP could be affected by rapid development in other portions of Zone 40 or by expansion of the City of Elk Grove's urban services area. Neither scenario has occurred or is anticipated to occur in the immediate future. As development occurs, SCWA will track service demands in relation to available supplies. Specific projects that are planned for in the future would be served with water supplies as the necessary conveyance and treatment facilities to deliver water to the newly developing areas are developed.

Endangered Species Act Clearance for CVP Water at the Freeport Intake Facility

The surface water that SCWA receives from the CVP is supplied by Reclamation, which operates its CVP system in coordination with DWR's operation of the State Water Project (SWP). These two public agencies prepared an updated document for the Operations Criteria and Plan (OCAP) governing ongoing operation of the joint federal-state system. The federal interagency "Section 7 consultation" required for ESA compliance, as conducted in 2004 by USFWS, has been found to be legally insufficient, as described below. There is a possibility that, due to this problem, diversion of CVP surface waters (including SCWA's surface water entitlements), could be subject to future curtailment to satisfy new requirements developed through a new Section 7 consultation; thus there is some uncertainty about these long-term supplies. However, these waters are not likely to be curtailed, and thus they are sufficiently secure to satisfy the degree of certainty required for water supply in the court's ruling in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007, 40 Cal. 4th 412). In short, the CVP supplies are "reasonably likely" supplies within the meaning of the legal discussion in that court case.

On May 25, 2007, a court order was filed in the U.S. Eastern District Court in Fresno in the matter of *NRDC v. Kempthorne* (Case No. 1:05-CV-01207) (Order). Issued by Judge Oliver W. Wanger, the Order holds that USFWS violated the federal ESA in preparing its BO for Delta smelt for the OCAP, by which Reclamation and DWR jointly operate the CVP and the SWP. The OCAP outlines the joint operation of the CVP and SWP systems, including the pumps in the Sacramento–San Joaquin Delta (Delta) that send water to the San Joaquin Valley and Southern California.

Along with the OCAP, Reclamation included the FRWP and several other pending water-related projects in the ESA Section 7 consultation to avoid having to do separate consultations for these water projects. Prepared by USFWS in response to a request from Reclamation, the BO evaluated how the OCAP, together with the FRWP and these other water projects, could adversely affect the Delta smelt, a species listed as threatened under ESA, under various projected future conditions, including increased pumping from the Delta pumps. The BO concluded that, with certain “reasonable and prudent measures” to mitigate adverse impacts, the OCAP and the water projects would not jeopardize the continued existence of the Delta smelt or adversely modify or destroy its critical habitat. The federal court found, however, that the “no jeopardy” finding in the 2005 BO was arbitrary, capricious, and contrary to law (see page 119 of the Order).

The implication of this federal order is that the OCAP and the operation of its constituent parts, including the FRWP, are left without a valid BO and, thus, are not compliant with the ESA with respect to the Delta smelt. Importantly, the actual construction of the FRWP is not affected by this federal order, as the OCAP Section 7 consultation and 2005 BO expressly excluded examination of the impacts of the construction associated with the FRWP (see page 113 of the Order). The FRWP was issued a separate BO for its construction and facilities footprint, and the facility is scheduled to be completed and operational by 2010. On December, a final written order by Judge Wanger was issued that puts in place a decision he initially made on August 31 regarding remedies and will curtail Delta pumping to protect the threatened Delta smelt. The Order will primarily affect export pumping between January and June, when juvenile Delta smelt are at greatest risk of entrainment in pumps. The actual impact on water supply will depend on a number of factors including the locations where adult smelt spawn and offspring hatch, levels of precipitation for the year, and water temperatures affecting how quickly the fish migrate.

Despite this court order and the need for USFWS to undertake a new Section 7 consultation for the OCAP (and the FRWP), SCWA’s existing CVP supplies should continue to be reliable sources of water for customers within Zone 40. As described above, SCWA Zone 40 currently has the right to use, but is not yet using, 30,000 afy of SMUD water. SCWA also has a right to use, and is using some of, the 15,000 afy of “Fazio” water, which is currently diverted at a City of Sacramento diversion and wheeled through the City of Sacramento’s piping system into the unincorporated areas of Sacramento County. Despite the inclusion of the FRWP in the OCAP Section 7 consultation, these CVP supplies are not expected to be adversely affected by Judge Wanger’s decision. The focus of Judge Wanger’s decision is on the OCAP itself, and in particular on federal and state pumps in the Delta, which have directly killed Delta smelt. SCWA’s CVP supplies are small components of the overall subject of the Section 7 consultations, and involve relatively modest amounts of water in the context of the overall CVP. It is the supplies south of the Delta that have been, and will continue to be, adversely affected by this decision; the relatively small diversions north of the Delta are not thought to be problematic for Delta smelt.

Furthermore, it is new diversions of CVP water that may be adversely affected by Judge Wanger’s decision, whereas SCWA’s CVP water at issue—a total of 45,000 afy—has been the subject of past CVP contracts, and thus would not represent water being diverted for consumptive uses for the first time. Since 1999, SCWA has been a signatory to a contract with Reclamation for the “Fazio” water, and is the assignee of SMUD with respect to the SMUD CVP contracts. Each of these contracts remains in effect until it expires, which will be in 2010 for the two SMUD CVP contracts assigned to SCWA and 2024 for the Fazio contracts.

Because the CVP water for SCWA Zone 40 is planned to be diverted at the FRWP, which is subject to Judge Wanger's order, a new BO will need to be issued by USFWS for SCWA to enter into new long-term (40-year) contracts with Reclamation for these supplies. In the meantime, however, the FRWP should be able to operate even under a reasonable worst-case scenario. Even in the unlikely event that USFWS does not prepare a new BO for OCAP/FRWP before the expiration of the SMUD CVP contracts, it is extremely unlikely that Reclamation would disallow diversions of SCWA's CVP water at the FRWP. Based on past practices and provisions of federal law related to Reclamation, Reclamation may enter into short-term (up to 10 years) contracts with SCWA for these supplies until the long-term contracts can be renewed. Many municipalities in California rely in whole or in part on CVP contract water; and, when the time for long-term renewals is imminent but, for various reasons, long-term commitments cannot be made, Reclamation enters into short-term contract extensions for such supplies until the long-term contracts can be renewed. Such short-term contracts avoid unacceptable scenarios in which the primary water supplies to existing developed areas are cut off. In other words, the federal government realizes that, having agreed to supply water for municipal uses, it cannot very well refuse to do so in the future, as the homes and businesses supplied with federal water have relied in good faith on those supplies. The City and SCWA expect that Reclamation will take the same approach with respect to the Fazio and SMUD CVP contracts.

SCWA also anticipates that by the time the FRWP is operational (approximately 2011), USFWS and Reclamation will have completed the necessary steps, including obtaining a new BO for OCAP/FRWP, to allow SCWA to divert all of its current CVP contract supplies and to enter into long-term contract renewals when such renewals are needed. Although Judge Wanger has required a considerable amount of work to fashion a new BO, USFWS still has 3 years or more to accomplish that task. Past experience indicates that this is a sufficient amount of time. USFWS, moreover, has strong incentives to complete its task in a timely fashion, as south-of-Delta water users will suffer as long as current pumping restrictions remain in place.

Regardless of the remedy ordered in the above-described federal litigation, and despite the theoretical possibility that the FRWP supplies might be affected by protracted problems with the Delta smelt, SCWA should nevertheless be able to provide the Rio del Oro project with a separate, reliable long-term supply of surface water—GET-Remediated Water. Because the federal order implicates only diversions of CVP water, it will not affect the construction of the FRWP. Diversion and distribution of the GET-Remediated Water (up to 15,500 afy) by the FRWP for the project would be unaffected even under an extremely unlikely scenario in which diversion of CVP water is held up by Delta smelt problems. Aerojet has rights under its contracts with SCWA to use GET-Remediated Water, which is sufficient to serve all of the project under a scenario in which CVP supplies are temporarily reduced in magnitude. This GET-Remediated Water is not associated with Reclamation's CVP system, and thus is not affected by the federal court litigation mentioned above. Importantly, the water at issue already exists, and is in fact already being discharged to the American River, from which it flows downstream, without being diverted, all the way to the Pacific Ocean. The only details to be worked out have to do with infrastructure, not the availability of the water for diversion and eventual delivery to the project site. This water is therefore "certain" or "likely" within the meaning of the *Vineyard Area Citizens* ruling. Because the possibility of any problems with diversion of the CVP supplies at the FRWP is remote, the FRWP's CVP supplies are reasonably likely within the meaning of the *Vineyard Area Citizens*, ruling as well.

This is not to say that the City claims to predict the future with absolute certainty, or that the CVP supplies might not be affected by future events that cannot be foreseen. Virtually all water supplies in California suffer from some uncertainty because of a combination of evolving environmental factors. One such factor is possible future species listings under the ESA and its state analogue, the California Endangered Species Act. Such listings could affect both CVP and SWP operations, as well as the timing and extent of other water diversions throughout California.

Consistent with the obligation under the California Supreme Court's *Vineyard Area Citizens* decision to address possible sources of uncertainty for anticipated water supplies, the City notes several principles of California water law that create some amount of uncertainty for virtually any post-1914 surface-water supply based on appropriative water rights, regardless of how firm the underlying appropriative water rights may be. Taken

together, these principles provide that water supplies can, in effect, be reallocated over time, from human uses to environmental uses, from relatively inefficient or wasteful human uses to more efficient and less wasteful human uses, from agricultural uses to municipal and industrial uses, and from Southern California to Northern California. Notably, some of these principles could ultimately favor the urban customers of a Northern California supplier such as SCWA.

First, the California Constitution and the California Water Code prohibit wasteful or unreasonable use of water (see Article X, Section 2 of the California Constitution and Section 100 of the Water Code). Article X, Section 2 of the California Constitution states: “[T]he general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use . . . of water be prevented . . .” Case law has interpreted this provision as follows: “What may be a reasonable beneficial use, where water is present in excess of needs, would not be a reasonable beneficial use in an area of great scarcity and great need. What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time” (*Tulare Irrigation Dist. v. Lindsay-Strathmore Irrigation Dist.* [1935] 3 Cal.2d 489, 547).

A second, and related, principle is that the limited availability of water for use in California means that those water resources that are available must be applied to the maximum beneficial use of which they are capable (Water Code Section 100, 23 California Code of Regulations Sections 659–672). As with the constitutional provisions discussed immediately above, the statutes and regulations embodying this latter principle recognize that societal notions of efficiency and beneficial use evolve over time, as the state’s increasing population requires all water users to use their water supplies more wisely.

Third, there are priorities related to the watershed of origin and county of origin (Water Code Sections 1215.6 and 1216). These priorities were put in place primarily to assure Northern California and rural interests that the CVP and SWP, by sending water southward from the Delta, would not foreclose their eventual use of water as their demands for such water increased over time. The legal basis for the watershed-of-origin and county-of-origin priorities derives from specific statutes or from conditions and reservations attached to appropriative rights issued by the SWRCB. For example, in 1927, pursuant to statute, the State of California sought and obtained permits that reserved large amounts of water from watersheds such as the American River watershed for eventual assignment to water users within such watersheds.

Fourth, provisions of the California Water Code provide that in times of water shortage, municipal and industrial water users should have priority over agricultural users (Water Code Section 106 et seq.). Although there is little case law on the subject, Water Code Section 106.5 is thought to express the policy that municipalities are exempt from the due diligence requirement generally applicable to perfecting an appropriative right. Coupled with the interim appropriation permits issued under Sections 1203 and 1462 of the Water Code, it is argued that the exemption strikes a balance between the needs of municipalities to secure a reliable water supply and the constitutionally mandated requirement that water be placed for beneficial use to the maximum extent feasible (California Constitution Article X, Section 2). Another policy consideration at work here is the pragmatic notion that, while agricultural lands can be temporarily fallowed during drought conditions, houses and businesses cannot be similarly deprived of the minimum amounts of water needed for public health and safety purposes related to domestic water usage.

A final legal principle with the potential to require periodic adjustments of water allocations between human and environmental purposes is the public-trust doctrine, which has historically been defined in relationship to the federal and state governments’ sovereign ownership of navigable waters, tidelands, and submerged lands of navigable waters. In the early 1980s, the California Supreme Court adopted an expanded interpretation of trust uses. The court held that state sovereign ownership was not limited to the traditional triad (commerce, navigation, and fishing), but is rather an evolving legal doctrine designed to accommodate the public’s needs as they change over time; as a result, the SWRCB, in administering post-1914 appropriative water rights, must now account for environmental considerations (see *National Audubon Society v. Superior Court* [1983] 33 Cal.3d 419, 434–445).

Recycled-Water Component

Approximately 4,400 afy of recycled water is currently provided to SCWA by the Sacramento Regional County Sanitation District (SRCSD). This water is used within the Zone 40 service area to offset demand by parks and for other nonpotable uses. “Recycled water” refers to wastewater treated to a tertiary level—filtration and disinfection (Title 22, unrestricted use)—and is used for nonpotable uses such as landscape irrigation at parks, schools, and rights-of-way.

North Service Area

The Zone 40 WSIP, prepared in April 2004 and revised in November 2006, provides the most up-to-date information on Zone 40’s water supplies, demands, and infrastructure; provides project-level detail that is necessary for implementation of the preferred pipeline alignment alternatives; and it also fills in the gaps of associated smaller infrastructure requirements, including a description of facility construction and phasing as well as operational requirements from existing conditions through ultimate buildout of the water system. The project site is located in the northern portion of Zone 40 identified in the Zone 40 WSIP as the North Service Area.

Water would be conveyed from the Vineyard Surface WTP to the North Service Area via the NSAPP. The preferred alignment would begin at the Vineyard Surface WTP and continue east along Florin Road. At the intersection of Florin Road and Eagles Nest Road, the pipeline would head north along Eagles Nest Road, which transitions into Zinfandel Road at the intersection of Douglas Road. The pipeline continues north along Zinfandel Road to a storage tank and pump station just north of Douglas Road and adjacent to the east side of the Folsom South Canal. In addition to providing water supplies to the project (including the Cal-Am portion where wholesale Zone 40 water supplies would be delivered), the NSAPP would also serve the Mather, Sunrise Corridor, Sunrise Douglas, and Westborough areas.

A proposed North Service Area pipeline alignment was identified in the 2005 Zone 40 WSMP EIR, and the environmental impacts of the construction of the pipeline were analyzed at a programmatic level in the Zone 40 WSMP. The NSAPP has not undergone project-level CEQA review, but SCWA expects that an EIR for the NSAPP will be prepared in 2008. The date that this pipeline would be in service is currently unknown, but is estimated at 2014.

Golden State Water Company

Permanent long-term water supplies cannot be delivered to the Rio del Oro project site until the water supplies and conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the NSAPP, and the FRWP) have been constructed and are online. Pending completion of these facilities, the initial water for the project would be supplied to SCWA by GSWC (formerly known as Southern California Water Company), a privately owned retail purveyor regulated by the California Public Utilities Commission. The following discussion provides an overview of GSWC’s existing and projected demands and water supply sources, as well as the reliability of supplies to meet projected demands within GSWC’s service area.

GSWC generally serves the northeastern portion of Rancho Cordova. Its service area is generally bounded by Sunrise Boulevard and Hazel Avenue to the east, Mather Air Force Base to the south, Mather Field Road to the west, and the American River to the north. GSWC owns and operates the Cordova System, which includes the Coloma WTP and Pyrites WTP, six water storage tanks, and a conveyance system. GSWC relies on both surface water and groundwater to meet water demands and is projecting buildout within its service area by 2020.

Existing and Projected GSWC Water Demands

Projections of the existing and projected future water demands within GSWC’s service area were calculated for the years 2005–2030 in 5-year increments. Future water demands were estimated based on population projections prepared by the Sacramento Area Council of Governments. Similarly, employment growth projections were used

to determine growth for commercial, industrial, landscape, agricultural, and other land uses. Billing data for metered water connections from 1999–2004 were analyzed to obtain unit water-use factors (i.e., the average water use per land use) for various land use categories within GSWC’s service area.

To provide an accurate projection of total water demand, other water uses (e.g., sales) and any water lost during conveyance (e.g., evaporation, leaks) have been incorporated in the total projections of water demand. “Lost water” is defined as the difference between annual production and supply and annual sales. Included in the lost water are system losses (from leaks, reservoir overflows, or inaccurate meters) and water used in operations (e.g., system flushing). Because the Cordova System is not completely metered, the percentage of unaccounted-for water for the metered accounts was used for both metered and unmetered areas. From 1999 through 2004, unaccounted-for water averaged 3.25% of the total production for the metered connections (Golden State Water Company 2005). Table 3.5-5 summarizes the past, current, and projected water sales; water system losses; and total water demand through the year 2030.

Table 3.5-5 Past, Current, and Projected Water Demands for GSWC’s Cordova System			
Year	Water Sales (afy)	Water System Losses (afy)	Total Water Demand (afy)
2000	15,880	533	16,413
2005	17,528	588	18,116
2010	18,885	633	19,518
2015	19,833	665	20,499
2020	20,139	675	20,814
2025	20,153	676	20,829
2030	20,153	676	20,829

Notes: afy = acre-feet per year; GSWC = Golden State Water Company
Source: City of Rancho Cordova 2006b

GSWC’s Water-Supply Sources

GSWC’s water supply for the Cordova System consists of surface water from the American River, groundwater extracted from the Central Basin, Aerojet replacement water via the Folsom South Canal, and other future Aerojet replacement water. Table 3.5-6 summarizes current and future water supplies available to GSWC for the Cordova System, as identified in GSWC’s 2005 UWMP, which would meet the projected water demands in normal water years. Surface water from the American River, the SMUD water transfer, and Aerojet replacement water diverted through the Folsom South Canal accounts for approximately 50% of GSWC’s water supplies; the remainder is provided by groundwater pumping and Aerojet replacement water.

GSWC’s Surface-Water Supplies

American River Water Supplies

GSWC possesses a pre-1914 appropriative right to divert up to 10,000 afy from the American River via the Folsom South Canal at a maximum withdrawal rate of 13 mgd. Appropriative surface-water rights initiated before 1914 are not subject to the Water Commission Act and successor laws relating to water right permitting requirements, and thus do not require a permit from the SWRCB. In 1994, GSWC entered into an “Agreement for Reallocation of Water under Co-Tenancy Agreement” with the City of Folsom to indefinitely lease 5,000 afy of its water rights to the city. GSWC diverts the remaining 5,000 afy of water from the Folsom South Canal for use within the Cordova System. During the last 20 years, GSWC has used as much as 4,784 afy of this entitlement.

**Table 3.5-6
Sources of Current and Future Water Supplies for GSWC's Cordova System (afy)**

Source	Year					
	2005	2010	2015	2020	2025	2030
Surface Water from the American River ¹	5,000	5,000	5,000	5,000	5,000	5,000
SMUD Water Transfer ²	5,000	0	0	0	0	0
Aerojet Replacement Water via the Folsom South Canal ³	0	5,000	5,000	5,000	5,000	5,000
GSWC Groundwater ⁴	13,250	7,450	4,500	4,500	4,500	4,500
Other Aerojet Replacement Water ⁵	0	10,200	10,200	10,200	10,200	10,200
Total Supplies	23,250	27,650	24,700	24,700	24,700	24,700
Total Demand	16,413	18,116	19,518	20,499	20,829	20,829
Difference (Supply minus Demand)	+6,837	+9,534	+5,182	+4,201	+3,871	+3,871

Notes:

afy = acre-feet per year; GSWC = Golden State Water Company; SMUD = Sacramento Municipal Utility District

¹ GSWC American River rights.

² The agreement between GSWC and SMUD expired on July 29, 2007. GSWC and SMUD are currently working with the U.S. Bureau of Reclamation to extend the water agreement for an additional 5 years. GSWC plans to use only 5,000 afy of this entitlement because of limited surface-water treatment capacity and its desire to maintain its groundwater rights through the Aerojet replacement water operations. It should be noted that at this time, GSWC has adequate water supplies without the SMUD water, which would not necessarily be required for base supply.

³ Aerojet's and SCWA's agreement with GSWC requires delivery of 5,000 afy of replacement water supplies via discharge to the American River system and conveyed within the Folsom South Canal to existing GSWC intake facilities. The RWSP DEIR describes the alternatives for delivery of water using GET Remediated Water.

⁴ GSWC's maximum annual extractions before 2005 were equal to 13,250 afy. GSWC has projected that by 2015, all but two of GSWC's wells would experience contamination levels that may cause their inactivation. The two remaining wells are not expected to be affected by contamination until at least 2032 and have a combined production capacity of 4,500 afy.

⁵ To the extent replacement water is required and not available through the SCWA system (e.g., wellhead treatment), GET Remediated Water could be made available, up to an additional 10,200 afy of remediated groundwater to GSWC via the Freeport Regional Water Project, which is anticipated to be operational by late 2009 or early 2010, and the Vineyard Surface Water Treatment Plant, which is anticipated to be completed by 2011.

Sources: Golden State Water Company 2005, City of Rancho Cordova 2006b

SMUD Water Transfer

GSWC also entered into a temporary water transfer agreement with SMUD to allow GSWC to divert up to an additional 10,000 afy from the Folsom South Canal under SMUD's CVP contract entitlement. SMUD has a water service contract with Reclamation (Contract No. 12-06-200-5198A) for delivery of as much as 30,000 afy of surface water to SCWA for municipal and industrial uses.

The agreement between GSWC and SMUD expired on July 29, 2007. GSWC and SMUD are currently working with Reclamation to extend the water agreement for an additional 5 years. GSWC plans to use only 5,000 afy of this entitlement because of limited surface-water treatment capacity and its desire to maintain its groundwater rights through the Aerojet replacement-water operations. It should be noted that at this time, the SMUD water, while currently used as part of the base supply because of the provisions in the MSA between Aerojet and GSWC, is in excess of current needs and can be replaced by groundwater, and thus would not necessarily be required for base supply (Gisler, pers. comm., 2007).

GSWC's Groundwater Supplies

GSWC pumps groundwater for the Cordova System from 15 production wells located in the Central Basin. The Cordova System has a total maximum capacity of 31,500 afy in normal years. Since 1995, GSWC has extracted a long-term average of 11,753 afy of groundwater from the Central Basin. GSWC's highest historical production occurred in 2001 when 13,257 afy was pumped. Portions of the basin are severely impaired by groundwater contamination, caused primarily by past operations at Aerojet, which is located immediately east of the Cordova System. This contamination has caused GSWC to suspend operation of several groundwater wells. However, decommissioning the wells has not lowered GSWC's overall system production capacity because GSWC has expanded its surface-water treatment and has increased extraction of noncontaminated groundwater.

It has been predicted that by 2015, all but two of GSWC's wells will experience contamination levels that may cause their inactivation. The two remaining wells are not expected to be affected by contamination until at least 2032. These two wells have a combined production capacity of 4,500 afy (Table 3.5-7). Because of existing groundwater contamination, and the anticipation that these wells would be removed from service by 2032, groundwater pumped by GSWC is considered to have a moderate reliability of being delivered.

Water Source	Year					
	2005	2010	2015	2020	2025	2030
Central Basin	8,116	7,450	4,500	4,500	4,500	4,500

Notes: afy = acre-feet per year; GSWC = Golden State Water Company
Source: Golden State Water Company 2005

Table 3.5-7 presents the projected groundwater pumping volumes by GSWC's Cordova System. As a result of changes in groundwater quality, the groundwater supply for GSWC's Cordova System is potentially expected to decrease between 2005 and 2015.

Aerojet Replacement Water

Aerojet and GSWC entered in a MSA under which both parties agreed to Aerojet's obligations to provide replacement water, as needed, for supply lost as a result of groundwater contamination from past activities by Aerojet. The MSA contains a contingency plan under which Aerojet and GSWC have reached agreement on certain actions, and which provides for a mechanism to resolve disputes if changes in the contingency plan are required. GSWC entered into a waster supply agreement with Sacramento County and SCWA concurrent with the MSA. The water supply agreement assists with the implementation of the MSA, and the Aerojet-County Agreement by establishing the terms and conditions under which SCWA would be responsible for providing replacement groundwater to GSWC. The agreements provide a negotiated solution to sharing the groundwater resources in this portion of Sacramento County. The water supply agreement requires that the County approve a replacement water supply project (as such the County has circulated the RWSP DEIR). Should the RWSP be approved, the water supply agreement requires SCWA to make replacement water available to GSWC.

Therefore, SCWA's would deliver 5,000 afy of replacement water supplies from Aerojet GET facilities via discharge to the American River system and conveyance within the Folsom South Canal to GSWC's existing intake facilities. GSWC's need for additional replacement water (i.e., water amounts greater than 5,000 afy) would be determined annually in a meet-and-confer session with SCWA. Based on GSWC's current UWMP, GSWC has conservatively projected that it may require up to 6,329 afy of replacement water in addition to the 5,000 afy from the Folsom South Canal (for a total of 11,329 afy in replacement water supplies). Up to an additional 10,200 afy of remediated groundwater could be delivered to GSWC via the FRWP, which is

anticipated to be operational in late 2009 or early 2010, and the Vineyard Surface WTP, which is anticipated to be completed in 2011. Regardless of demonstrated need, GSWC's total maximum allocation of replacement water supply in any year could not exceed 15,200 af (i.e., 5,000 afy delivered to GSWC at the Folsom South Canal plus a maximum of 10,200 afy delivered through FRWP facilities).

The County would be responsible for construction and operation of facilities necessary to deliver the remaining replacement water to GSWC at the delivery points identified in the agreement. The County's obligation to provide replacement water to GSWC is also limited to an appropriate share of the total amount of remediated water conveyed by Aerojet to the County. As discussed above, the County's obligation to provide GSWC with replacement water depends on the approval of a replacement water approval project.

Reasonable Likelihood of GSWC's Water Supplies

The certainty of GSWC's water supplies for the Cordova System depends on the reliability of the surface-water rights, groundwater production, and replacement water supplied via the MSA between GSWC, Aerojet, and SCWA.

The American River is considered a reliable source of water supply because appropriative rights are granted by priority based on the year of initiation and GSWC possesses an early priority date (pre-1914). With respect to groundwater supply, GSWC has projected that by 2015, all but two of GSWC's wells will experience contamination levels that may cause their inactivation. The two remaining wells are projected by GSWC not to be affected by contamination until at least 2032 and have a combined production capacity of 4,500 afy; therefore, this groundwater supply is considered moderately reliable.

However, the MSA establishes a contingency plan for actions to be taken, including specific actions such as blending and wellhead treatment, to manage short-term well impacts, and GSWC has advised the EPA that such actions are adequate. In addition, the current WSA provides additional assurance that necessary actions to meet GSWC's long-term projected water supply demands through 2030 will be met, should additional wells be shut down.

GSWC's Water-Supply Conveyance and Treatment

The GSWC Cordova System's distribution facilities have been designed with several interconnections to neighboring water purveyors for emergency purposes. GSWC maintains three 6-inch interconnections with Cal-Am's distribution system on the west side of the Cordova System and a 12-inch interconnection with the City of Folsom's distribution system at the eastern edge of the Cordova System. In addition, the Cordova System has six water storage reservoirs with a total capacity of 14.5 million gallons.

American River water is withdrawn from the Folsom South Canal, which extends through the Cordova System's service area, and is treated at the Coloma WTP and the Pyrites WTP. The maximum reliable daily treatment capacities of the Coloma WTP and the Pyrites WTP are approximately 7,140 gallons per minute (gpm) and 3,150 gpm, respectively. Collectively, the Coloma WTP and the Pyrites WTP provide sufficient capacity for treatment of more than 17,000 afy (10,290 gpm) of surface water diverted from the Folsom South Canal.

No GSWC water conveyance facilities are located on or adjacent to the Rio del Oro project site. A 5.0-mgd water storage tank and 16-inch conveyance pipeline are located southwest of the project site, west of Sunrise Boulevard.

CITY OF RANCHO CORDOVA

City of Rancho Cordova Water Supply Evaluation

The City conducted a water supply evaluation for the City General Plan (City of Rancho Cordova 2006b). The evaluation included information about all of the following:

- ▶ the regulatory and planning environment with regard to the regional water supply;
- ▶ water purveyors that currently provide water service within Rancho Cordova;
- ▶ water demands associated with buildout of the City’s corporate limits, including the demand from the Rio del Oro project (which is estimated to build out by 2030) and larger planning area (which is assumed to build out by 2050);
- ▶ existing available water supplies that could meet a portion of the City’s projected buildout water demands (e.g., buildout of the planning area);
- ▶ the area within the City’s corporate limits for which long-term water supplies have been secured (e.g., approved and planned projects, including the Rio Del Oro project, and existing development);
- ▶ potential future sources of water to meet remaining buildout water demands; and
- ▶ a brief summary of the potential environmental impacts associated with delivering future water supplies to Rancho Cordova.

The City’s water supply evaluation concluded that water supplies are currently available to meet the water demands associated with buildout of the City’s corporate limits, including the demand from the Rio del Oro project (which is estimated to build out by 2030), but to meet water demands from land uses in the expanded 2050 planning area. The City would be required to secure additional water supplies to meet its projected 2050 demands. Increased water demands could result in increased groundwater pumping, an increased demand for new surface-water supplies, an increased demand for recycling and water conservation programs, and/or an increased demand for local water purveyors to expand their service areas. Potential projects to secure additional supplies could include the negotiation of new water right transfers; construction of new diversion structures; expansion or construction of new water treatment plants; and construction of new potable-water and recycled-water distribution facilities. (City of Rancho Cordova 2006b.)

City of Rancho Cordova’s Recycled-Water Supplies

SRCS D is responsible for the collection, treatment, disposal, and reuse (of recycled water) of up to 5 mgd of wastewater throughout most of the urbanized areas of Sacramento County, including the majority of the SWCA retail service areas. SRCS D implemented a water recycling program on the Sacramento Regional Water Treatment Plant (SRWTP) site, which began service to communities in southern Sacramento County in 2003.

Through an agreement between SCWA and SRCS D, SCWA has successfully implemented a water recycling program. Approximately 4,400 afy of recycled water is currently provided to SCWA by SRCS D and used within the Zone 40 service area. This program provides recycled water for SRCS D’s on-site uses and for large commercial irrigation customers within Zone 40 (e.g., commercial uses, industrial uses, right-of-way landscaping, schools, and parks). Because of its high reliability and its independence of hydrologic conditions in any given year, recycled water is a desirable source of water for a community’s outdoor irrigation demands—parks, schools, street medians, landscaping of residential front and back yards, and public open space. It is also desirable for industrial uses such as cooling water. In addition, recycled water is commonly used for environmental purposes such as wetlands and habitat restoration. SRCS D is working in partnership with SCWA to serve areas in Zone 40, including Rancho Cordova. The expanded water-recycling facility and new water-recycling service areas will be called Phase II of the SRCS D Water Recycling Program. Phase II construction will be timed with the need for the higher capacity and is currently expected to be in service in five to ten years.

The City emphasizes the use of recycled water for nonpotable uses, such as landscape irrigation, wherever feasible. The City adopted a Citywide Recycled Water Distribution Ordinance (Resolution No. 11-2006) on February 6, 2006, stating that new development should install a “purple pipe” recycled-water distribution system

(City of Rancho Cordova 2006c). Because of the City's commitment to the use of recycled water, SCWA and SRCSD are investigating the feasibility of providing recycled-water service.

SCWA has indicated that the expanded use of recycled water for nonpotable purposes could reduce demands for potable water by as much as 10%–50%, depending on the level of reuse that is prescribed. Using recycled water for public areas such as medians and park strips would reduce demands for potable water by approximately 10%–15%, and using recycled water for public area and residential outdoor areas (e.g., residential landscaping) could reduce overall demands for potable water by as much as 50%. (City of Rancho Cordova 2006b.)

Expanded Use of Recycled Water

The water recycling program on the SRWTP site was designed and constructed to be readily expandable from 5 mgd to 10 mgd in accordance with SRCSD's Master Reclamation Permit (WDR #97-146). To plan for water recycling projects beyond 2010, a planned plant expansion of the water recycling facility from 5 mgd to 10 mgd could serve new areas of planned and expected growth and public open space areas. The increased use of recycled water within Zone 40 would increase the total volume of supplies available to SCWA to meet its projected demands within Zone 40.

SRCSD has prepared a *Water Recycling Opportunities Study* (SRCSD 2007) to study the feasibility of meeting its goal to increase water recycling throughout the Sacramento region on the scale of 30–40 mgd over the next 20 years. The study serves to:

- ▶ identify potential opportunities for water recycling throughout the Sacramento region and SRCSD service area;
- ▶ engage potential water-recycling partners and stakeholders;
- ▶ develop, assess, and prioritize potential water-recycling projects; and
- ▶ provide a strategy to further develop and implement the projects initially selected to move forward in achieving the stated goals of the large-scale water-recycling program.

The study also ranks potential projects based on water demand, feasibility of implementation, costs, and other factors to prioritize projects for implementation. Implementation of a large-scale Water Recycling Program would be required to undergo a comprehensive review of the program elements to satisfy CEQA requirements. The Water Recycling Opportunities Study provides technical information to support a programmatic-level EIR.

Future projects to provide recycled water to Rancho Cordova include diversion of wastewater from the Bradshaw/Folsom Interceptor System and require construction of a new wastewater treatment plant, an aboveground storage tank, a pump station, and new infrastructure to convey recycled water. (SRCSD 2007.)

Future expansion and use of recycled water within Zone 40 would increase the total volume of supplies available to SCWA to meet its projected demands within Zone 40. However, it unknown what portion of the expanded recycled water supplies would be available to Zone 40.

GLOBAL CLIMATE CHANGE AND WATER SUPPLY LINKAGES

Theories about climate change and global warming existed as early as the late 1800s. It was not until the late 1900s that understanding of Earth's atmosphere had advanced to the point where many atmospheric and climate scientists began to accept that Earth's climate is changing (IPCC 2001a, 2001b; DWR 2006).

In recent years, the scientific consensus has broadened to consider increasing concentrations of greenhouse gases, attributable to anthropogenic (human) activities, as a primary cause of global climate change. The United Nations

Intergovernmental Panel on Climate Change (IPCC) predicts that changes in Earth's climate will continue through the 21st century and that the rate of change may increase significantly in the future because of human activity (IPCC 2001b, 2007).

Today, the issue of global climate change has begun to play an increasing role in scientific and policy debates over multiple issue areas, such as land use planning, transportation planning, energy production, habitat and species conservation, use of ocean resources, and agricultural production. Of particular concern are the existing and potential future effects of global climate change on hydrologic systems and water management (e.g., domestic water supply, agricultural water supplies, flood control, and water quality). There is evidence that global climate change has already had an effect on California's hydrologic system; for example, historical data indicate a trend toward declining volumes of spring and summer runoff from the Sierra Nevada.

California water planners and managers have been among the first groups in the nation to seriously consider the implications of statewide and regional climate change (rather than global-scale changes) on the reliability and safety of their systems. Initial research and analysis on climate risks facing California water resources began in the early 1980s; by the end of the decade, state agencies such as the California Energy Commission had prepared the first assessments of state greenhouse gas emissions and possible impacts on a wide range of sectors. The *California Water Plan* (Bulletin 160) first briefly addressed climate change in 1993 (DWR 1993). More recently, DWR and the Public Interest Energy Research program of the California Energy Commission expanded and refined the analysis of climate change effects in California in the 2005 update of the *California Water Plan*, which explores a wide range of climate impacts and risks, including risks to water resources (Kiparsky and Gleick 2005, Roos 2005). The 2005 update also describes efforts that should be taken to quantitatively evaluate climate change effects for the next update of the *California Water Plan* (DWR 2005). DWR has also followed up on these issues with a technical memorandum report that specifically discusses progress on modeling climate change in the state, characterizes the effects of climate change, and incorporates climate change into planning and management of California's water resources (DWR 2006).

The following discussion briefly describes the current state of the science surrounding climate change and associated effects. It discusses projections that have application to Delta waterways and the Rio del Oro project, as well as projected future changes and the accuracy and variability of modeling results, and identifies results presumed to be too speculative for meaningful conclusive analysis.

Variability in Regional Modeling of Climate Change

Much of the available trend data and modeling and many of the projections related to climate change are on a global scale. Projecting impacts of climate change often relies on general circulation models, which develop large-scale scenarios of changing climate parameters, usually comparing scenarios with different concentrations of greenhouse gases in the atmosphere. This information is typically at too coarse a scale to make accurate regional assessments. As a result, more effort has recently been put into reducing the scale and increasing the resolution of climate models through various techniques such as "downscaling" or integrating regional models into the global models (Kiparsky and Gleick 2005, Roos 2005, DWR 2006). However, the level of uncertainty related to regional climate change is generally higher than that related to global projections because downscaling and similar activities add uncertainty.

Variability in the results of climate change modeling is based in large part on which global climate model is used, what inputs are selected for the model (e.g., increases in the world's population and emissions of greenhouse gases), and how the model is downscaled to provide region-specific data. For example, in DWR's report *Progress on Incorporating Climate Change into Management of California's Water Resources, Technical Memorandum Report* (DWR 2006), four scenarios projecting regional climate change were selected, consisting of combinations of two different global climate models and two different emissions scenarios. These four scenarios provided temperature results ranging from weak warming to relatively strong warming, and precipitation results ranging from modest reductions to weak increases (DWR 2006).

It should be remembered that results of climate change modeling, particularly for regional models, should not be considered as specific quantified predictions. There is a significant amount of uncertainty about the magnitude of climate change that will occur during this century. It is unlikely that this level of uncertainty will diminish significantly in the foreseeable future (Dettinger 2005). Therefore, effects on the environment anticipated under various climate change models should be considered as general projections of potential future conditions, with actual environmental effects likely falling within the range of results provided by a variety of model outputs.

Water-Supply Status and Trends

Several recent studies have shown that existing water-supply systems are sensitive to climate change (Wood and Palmer 1997). Potential impacts of climate change on water supply and availability could directly and indirectly affect a wide range of institutional, economic, and societal factors (Gleick 1986). Much uncertainty remains, however, with respect to the overall impact of global climate change on future water supplies. For example, models that predict drier conditions (i.e., the parallel climate model [PCM]) suggest that reservoir inflows, reservoir storage, and river flows will also decrease relative to current conditions. By comparison, models that predict wetter conditions (i.e., HadCM2) project increased reservoir inflows, reservoir storage, and river flows (Brekke et al. 2004). Both projections are equally probable based on which model is chosen for the analyses (Brekke et al. 2004). Much uncertainty also exists with respect to how climate change will affect future demand on water supply (DWR 2006). Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (Kiparsky and Gleick 2005, Cayan et al. 2006).

Little work has been performed on the effects of climate change on specific groundwater basins or groundwater recharge characteristics (Kiparsky and Gleick 2005). Changes in rainfall and changes in the timing of the groundwater recharge season would result in changes in groundwater recharge. Warmer temperatures could increase the period when water is on the ground by reducing soil freeze. Conversely, warmer temperatures could lead to higher evaporation or shorter rainfall seasons, which could mean that soil deficits would persist for longer time periods, shortening recharge seasons. Warmer, wetter winters would increase the amount of runoff available for groundwater recharge. This additional winter runoff, however, would be occurring at a time when some basins, particularly in Northern California, are being recharged at their maximum capacity. Reductions in spring runoff and higher evapotranspiration, on the other hand, could reduce the amount of water available for recharge. However, the specific extent to which various meteorological conditions will change and the impact of that change on groundwater are both unknown. A reduced snowpack, coupled with increased rainfall, could require a change in the operating procedures for California's existing dams and conveyance facilities (Kiparsky and Gleick 2005).

Water Supply Projections

DWR's 2006 report focused on climate change impacts on CVP and SWP operations and on the Delta. The results of that analysis suggest several impacts of climate change on overall CVP and SWP operations and deliveries. In three of the four climate scenarios simulated, CVP reservoirs north of the Delta experienced shortages during droughts. DWR (2006) recommends that future studies examine operational changes that could avoid these shortages. At present, DWR concludes, it is not clear whether such operational changes would be insignificant or substantial. Changes in annual average CVP deliveries south of the Delta ranged from increases of about 2.5% for the wetter scenario to decreases of up to 10% for drier scenarios. Future studies will have to address how shortages north of the Delta could affect CVP deliveries south of the Delta. Carryover storage (i.e., water from one year stored into the next year) for the CVP was negatively affected in the drier scenarios and beneficially affected (slightly increased) in the wetter scenario.

Tanaka et al. (2006) explored the ability of California's water supply system to adapt to long-term climatic and demographic changes using the California Value Integrated Network (CALVIN), a statewide economic-engineering optimization model of water supply management. The results show that agricultural water users in the

Central Valley are the most sensitive to climate change, particularly under the driest and warmest scenario (i.e., PCM 2100), predicting a 37% reduction of agricultural water deliveries in the Central Valley and a rise in Central Valley water scarcity costs by \$1.7 billion. Although the results of the study are only preliminary, they suggest that California's water-supply system appears "physically capable of adapting to significant changes in climate and population, albeit at a significant cost." Such an adaptation would entail changes in California's groundwater storage capacity, water transfers, and adoption of new technology.

VanRheenen et al. (2004) studied the potential effects of climate change on the hydrology and water resources of the Sacramento–San Joaquin River basin using five PCM scenarios. The study concluded that most mitigation alternatives examined satisfied only 87% to 96% of environmental targets in the Sacramento system, and less than 80% in the San Joaquin system. Therefore, modifications and improvements to system infrastructure could be necessary to accommodate the volumetric and temporal shifts in flows predicted to occur with future climates in the Sacramento–San Joaquin River basin.

Zhu, Jenkins, and Lund (2005) studied impacts of a warming climate on water availability. Impacts were derived from modeled climate and warming streamflow estimates for six index California basins and on distributed statewide changes in temperatures and precipitation for 12 climate scenarios. The index basins provide broad information for spatial estimates of the overall response of California's water supply and the potential range of impacts. The results identify a statewide trend of increased winter and spring runoff and decreased summer runoff. Approximate changes in water availability are estimated for each scenario, though without operations modeling. Even most scenarios with increased precipitation result in a decrease in available water, because of the inability of current storage systems to catch increased winter streamflow to offset reduced summer runoff.

Medellin et al. (2006) used the CALVIN model under a high-emissions "worst-case" scenario called a dry-warming scenario. The study found that climate change would reduce water deliveries by 17% in the year 2050. The reduction in deliveries was not equally distributed between urban and agricultural areas, however; agricultural areas would see their water deliveries drop by 24% while urban areas would see a reduction of only 1%. There was also a geographic difference: urban scarcity was almost absent outside of Southern California.

In 2003, the California Energy Commission's Public Interest Energy Research program established the California Climate Change Center to conduct climate-change research relevant to the state. Executive Order S-3-05 called for the California Environmental Protection Agency to prepare biennial science reports on the potential impact of continued climate change on certain sectors of California's economy; the agency entrusted the Public Interest Energy Research program and its California Climate Change Center to lead this effort. The analysis of climate change contained in the resulting first biennial science report concluded that major changes in water management and allocation systems could be required to adapt to the change. As less winter precipitation falls as snow, and more as rain, water managers would have to balance the need to construct reservoirs for water supply with the need to maintain reservoir storage for winter flood control. Additional storage could be developed, but at high environmental and economic costs.

Lund et al. (2003) examined the effects of a range of estimates of climate warming on the long-term performance and management of California's water system. The study estimated changes in California's water availability, including effects of forecasted changes in year-2100 urban and agricultural water demands, using a modified version of the CALVIN model. The main conclusions are summarized as follows:

- ▶ Methodologically, it is useful and realistic to include a wide range of hydrologic effects, changes in population and water demands, and changes in system operations in studies of climate change.
- ▶ A broad range of climate-warming scenarios show significant increase in wet-season flows and significant decreases in spring snowmelt. The magnitude of effects of climate change on water supplies is comparable to increases in water demand from population growth in the 21st century.

- ▶ California’s water system would be able to adapt to the severe population growth and climate change modeled. This adaptation would be costly, but it would not threaten the state’s fundamental prosperity, although it could have major impacts on the agricultural sector. The water management costs represent only a small proportion of California’s current economy.
- ▶ Under the driest climate-warming scenarios, agricultural users in the Central Valley could be quite vulnerable to climate change. Wetter hydrologies could increase water availability for these users. The agricultural community would not be compensated for much of its loss under the dry scenario. The balance of effects of climate change on agricultural yield and water use is unclear. Although higher temperatures could increase evapotranspiration, longer growing seasons and higher carbon dioxide concentrations could increase crop yield.
- ▶ In Southern California, population growth is expected to be more problematic than climate change. Population growth, conveyance limits on imports, and the high economic value of water in Southern California could lead to high levels of wastewater reuse and substantial use of desalinated seawater along the coast.
- ▶ Under some wet-warming-climate scenarios, flooding problems could be substantial. In certain cases, major expansions of downstream floodways and alterations in floodplain land use could become desirable.
- ▶ California’s water system could economically adapt to all the climate-warming scenarios examined in the study. California can adapt to population growth and global climate change by using new technologies for efficiency of water supply, treatment, and water use; implementing water transfers and conjunctive use; coordinating operation of reservoirs; and improving flow forecasting. The cooperation of the federal, state, regional, and local governments can also be helpful. Even if these strategies are implemented, however, the costs of water management are expected to be high and there is likely to be less “slack” in the system than under current operations and expectations.

Summary of Global Climate Change on Water Supply

As described by the projections above, overall, climate change is expected to have a greater effect in Southern California and on agricultural users than on urban users in the Central Valley, which includes both the Sacramento and San Joaquin Valleys. For example, for year-2020 conditions, where optimization is allowed (i.e., using the CALVIN model), scarcity is essentially zero in the Sacramento Valley for both urban and agricultural users, and generally zero for urban users in the San Joaquin and Tulare basins. Rather, most water scarcity will be felt by agricultural users in Southern California, although urban users in Southern California, especially those in the Coachella Valley, will also experience some scarcity. By the year 2050, urban water scarcity will remain almost entirely absent north of the Tehachapi Mountains, although agricultural water scarcity in the Sacramento Valley could increase to about 2% (Medellin et al. 2006; see also Tanaka et al. 2006 and Lund et al. 2003 for further discussion of impacts of global climate change on agricultural uses).

Based on the conclusions of current literature regarding California’s ability to adapt to global climate change, it is reasonably expected that, over time, the state’s water system will be modified to be able to handle the projected climate changes, even under dry and/or warm climate scenarios (DWR 2006). Although coping with climate change effects on California’s water supply could come at a considerable cost, based on a thorough investigation of the issue, it is reasonably expected that statewide implementation of some, if not several, of the wide variety of adaptation measures available to the state will likely enable California’s water system to reliably meet future water demands. For example, traditional reservoir operations may be used, in conjunction with other adaptive actions, to offset the impacts of global warming on water supply (Medellin et al. 2006; see also Tanaka et al. 2006 and Lund et al. 2003). Other adaptive measures include better water-use efficiency practices by urban and agricultural users, conjunctive use of surface water and groundwater, desalination, and water markets and portfolios (Medellin et al. 2006; see also Lund et al. 2003 and Tanaka et al. 2006). More costly statewide

adaptation measures could include construction of new reservoirs and enhancements to the state’s levee system (CEC 2003). As described by Medellin et al. 2006, with adaptation to the climate, water deliveries to urban centers are expected to decrease by only 1%, with Southern California shouldering the brunt of this decrease.

3.5.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

There are no federal plans, policies, regulations, or laws related to utilities and service systems (water supply) that are applicable to the proposed project or alternatives under consideration.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Senate Bills 610 and 221

The State of California has enacted legislation that is applicable to the consideration of larger projects under CEQA. Senate Bill (SB) 610 (Chapter 643, Statutes of 2001; Section 21151.9 of the Public Resources Code and Section 10910 et seq. of the Water Code) requires the preparation of “water supply assessments” for large developments (i.e., more than 500 dwelling units or nonresidential equivalent), such as the Rio del Oro Specific Plan. These assessments, prepared by “public water systems” responsible for serving project areas (here, SCWA), address whether existing and projected water supplies are adequate to serve the project while also meeting existing urban and agricultural demands and the needs of other anticipated development in the service area in which the project is located. If the most recently adopted UWMP accounted for the projected water demand associated with the project, the public water system may incorporate the requested information from the UWMP. If the UWMP did not account for the project’s water demand, or if the public water system has no UWMP, the project’s WSA shall discuss whether the system’s total projected water supplies (available during normal, single-dry, and multiple-dry water years during a 20-year projection) would meet the project’s water demand in addition to the system’s existing and planned future uses, including agricultural and manufacturing uses.

Where a WSA concludes that insufficient supplies are available, the public water system must provide to the city or county considering the development project (here, the City of Rancho Cordova [City]) its plans for acquiring and developing additional water supplies. Based on all the information in the record relating to the project, including all applicable WSAs and all other information provided by the relevant public water systems, the city or county must determine whether sufficient water supplies are available to meet the demands of the project, in addition to existing and planned future uses. Where a WSA concludes that insufficient supplies are available, the WSA must lay out the steps that would be required to obtain the necessary supply. The WSA is required to include (but is not limited to) identification of the existing and future water supplies over a 20-year projection period. This information must be provided for average normal, single-dry, and multiple-dry years. The absence of an adequate current water supply does not preclude project approval, but it does require a lead agency to address a water supply shortfall in its project findings.

If the project is approved, additional complementary statutory requirements, created by 2001 legislation known as SB 221 (Government Code Section 66473.7), would apply to the approval of tentative subdivision maps for more than 500 residential dwelling units. This statute requires cities and counties to include, as a condition of approval of such tentative maps, the preparation of a “water supply verification.” The verification, which must be completed by no later than the time of approval of final maps, is intended to demonstrate that there is a sufficient water supply for the newly created residential lots. The statute defines sufficient water supply as follows:

... the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection period that would meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses.

A number of factors must be considered in determining the sufficiency of projected supplies:

- ▶ the availability of water supplies over a historical record of at least 20 years;
- ▶ the applicability of an urban-water-shortage contingency analysis that includes action to be undertaken by the public water system in response to water supply shortages;
- ▶ the reduction in water supply allocated to a specific water-use sector under a resolution or ordinance adopted or a contract entered into by the public water system, as long as that resolution, ordinance, or contract does not conflict with statutory provisions giving priority to water needed for domestic use, sanitation, and fire protection; and
- ▶ the amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including programs identified under federal, state, and local water initiatives.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

Rancho Cordova General Plan

An updated analysis of the proposed project's and alternatives' consistency with applicable goals and policies from the *Rancho Cordova General Plan* (City General Plan) relating to utilities and service systems (water supply) are provided in Appendix N of this Recirculated DEIR/Supplemental DEIS.

3.5.3 THRESHOLDS OF SIGNIFICANCE

The water supply analysis in a CEQA document is governed by California case law that requires the lead agency to consider both the relative certainty of new water supplies that a project would require and the impacts that could result from the use of those new water supplies. The following discussion introduces the principles governing water supply analyses in CEQA documents and distinguishes between the analysis of the certainty of supplies and the impact of providing those supplies. These principles are as follows:

1. An environmental impact report (EIR) may not assume a solution to problem of water supply, but must instead present sufficient facts to evaluate the pros and cons of supplying the required water. (*Santiago County Water District v. Orange* [1981] 118 Cal.App.3d 818, 829.)
2. The water supply analysis for large, multiphase projects may not be limited to the first few years or phases. Furthermore, the first or programmatic document for such a project may not defer analysis to future phases, but must analyze reasonably foreseeable impacts of supplying required water. The tiering principle does not allow deferral to future studies or documents. (*Santa Clarita Organization for Planning the Environment v. County of Los Angeles* [2003] 106 Cal. App. 4th 715, 723.)
3. An EIR evaluating a planned land use project must assume that all phases of the project will eventually be built and will need water. The EIR for such a project must analyze the impacts of supplying water to the entire project. (*Stanislaus Natural Heritage Project v. County of Stanislaus* [1996] 48 Cal.App.4th 182, 206.)
4. Future water supplies for a project must bear a reasonable likelihood of proving to be available. While absolute certainty is not required, water supplies must be identified with more specificity as projects progress from general to specific phases (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th, 412, 434). "Where, despite a full discussion, it is impossible to confidently determine that anticipated water sources will be available, CEQA requires some discussion of possible replacement sources or alternative to use of the anticipated water, and of the environmental consequences of

those contingencies.” (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th 412, 432.)

5. Although much of the case law focuses on the issue of certainty, the ultimate issue under CEQA is not whether an EIR establishes a likely source of water, but whether the document adequately analyzes the reasonably foreseeable impacts of supplying water to the project. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th, 412, 434.)

The discussion of water supply in this section follows these principles. Accordingly, this analysis looks at both the certainty of selected water supplies and the impacts that would result from those supplies. An impact is considered significant if the project or a phase of the project would result in a water shortage or another significant adverse physical impact on the environment. Alternate sources of water and the impacts associated with those sources are also discussed in this analysis because, in some limited instances, there is not complete certainty that selected water supplies would be available.

The significance thresholds for this analysis are also based on Appendix G of the State CEQA Guidelines. A water supply impact is considered significant if implementation of the project or alternatives under consideration would do any of the following:

- ▶ require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- ▶ have insufficient water supplies available to serve the project from existing or permitted entitlements and resources, or require new or expanded entitlements.

Section 15126.4(a)(1)(D), of the State CEQA Guidelines states that if a mitigation measure would cause one or more significant environmental effects in addition to those that would be caused by the project, the effects of the mitigation measure must be discussed, but in less detail than the significant effects of the project.

3.5.4 ANALYSIS METHODOLOGY

Impacts of project implementation on initial and permanent water supplies and conveyance facilities were identified by comparing existing service capacity and facilities with future demand associated with project implementation. Where possible, a quantitative comparison was used to determine impacts of the project on future demands. Potential demands for water and impacts on infrastructure were evaluated based on a review of the following documents pertaining to the project site and surrounding area. In accordance with Section 15150 of the State CEQA Guidelines, the following documents are incorporated by reference in this Recirculated DEIR/ Supplemental DEIS, and relevant portions of these documents are summarized herein where their analysis has been relied on in this Recirculated DEIR/Supplemental DEIS:

- ▶ *Final Environmental Impact Report for the City of Rancho Cordova General Plan* (State Clearinghouse [SCH] #2005022137) (City of Rancho Cordova 2006a),
- ▶ *City of Rancho Cordova Water Supply Evaluation for the City of Rancho Cordova General Plan* (City of Rancho Cordova 2006b),
- ▶ *Rio del Oro Plan Area Water Supply Master Plan* (Wood Rodgers 2004, 2007a),
- ▶ *Rio del Oro Specific Plan Non-Potable Water Study* (Wood Rodgers 2007b),
- ▶ *Sacramento County Water Agency Amended Water Supply Assessment for the Rio del Oro Project* (SCWA 2006a),

- ▶ *Zone 40 Water Supply Master Plan Final Environmental Impact Report* (SCH #95082041) (SCWA 2004a),
- ▶ *Sacramento County Water Agency Groundwater Management Plan* (SCWA 2004b),
- ▶ *Sacramento County Water Agency Zone 40 Central Surface and Groundwater Treatment Plant, Pipelines and Corporation Yard Mitigated Negative Declaration* (SCH #2004092050) (SCWA 2004c),
- ▶ *Sacramento County Water Agency 2005 Zone 40 Water Supply Master Plan* (SCWA 2005a),
- ▶ *Sacramento County Water Agency 2005 Zone 41 Urban Water Management Plan* (SCWA 2005b),
- ▶ *Sacramento County Water Agency Zone 40 Water System Infrastructure Plan* (SCWA 2006b),
- ▶ *Eastern County Replacement Water Supply Project Draft Environmental Impact Report* (SCH #2004042122) (SCWA 2007a),
- ▶ *Final Environmental Impact Report for the Water Forum Proposal* (SCH #95082041) (Sacramento City-County Office of Metropolitan Water Planning 1999),
- ▶ *Golden State Water Company 2005 Urban Water Management Plan—Cordova* (Golden State Water Company 2005), and
- ▶ *Final Environmental Impact Report/Environmental Impact Statement for the Freeport Regional Water Project* (SCH #2002032132) (Freeport Regional Water Authority 2003).

These documents are available for review at the City of Rancho Cordova Planning Department, located at 2729 Prospect Park Drive, Rancho Cordova, CA 95670.

The permanent long-term water supply for the project cannot be delivered until the conveyance facilities identified in the Zone 40 WSMP and FRWP have been constructed and are online. The EIR for the Zone 40 WSMP was certified in 2005, and the FRWP EIR/EIS was certified in March 2006. Because these facilities and their impacts have been analyzed in other EIRs by SCWA, these facilities are not evaluated in further in this Recirculated DEIR/Supplemental DEIS. However, a summary of their environmental impacts have been incorporated by reference and are summarized in this section as they relate to the project.

3.5.5 IMPACT ANALYSIS AND MITIGATION MEASURES

Effects that would occur as a result of implementation of each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser). Thresholds used to determine the significance of impacts under each scenario are described in Section 3.5.3, “Thresholds of Significance.”

Impacts related to water supply, at both the program and project level, are presented in the following order:

- ▶ Need for Initial Water Supplies for Development Phase 1A (Impacts 3.5-1 and 3.5-10)
- ▶ Need for Initial Water Supplies for the Remaining Phase 1 Development (Impacts 3.5-2 and 3.5-11)
- ▶ Need for Initial Off-Site Water Conveyance Facilities (Impacts 3.5-3 and 3.5-12)
- ▶ Temporary Curtailment of Project Development (Impacts 3.5-4 and 3.5-13)
- ▶ Increased Demand for Permanent Water Supplies (Impacts 3.5-5 and 3.5-14)
- ▶ Need for Water Conveyance Facilities to Deliver Long-Term Water Supplies (Impacts 3.5-6 and 3.5-15)
- ▶ Permanent Curtailment of Project Development (Impacts 3.5-7 and 3.5-16)
- ▶ Use of Nonpotable-Water Supplies and Infrastructure (Impacts 3.5-8 and 3.5-17)
- ▶ Effects of Global Climate Change on Surface-Water and Groundwater Supplies (Impacts 3.5-9 and 3.5-18)

PROGRAM LEVEL IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Need for Initial Water Supplies for Development Phase 1A. *Project implementation would result in a need for an initial water supply to the project site for development Phase 1A until the SCWA facilities (the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.*

Applies to: PP, HD, IM, NF.

The permanent long-term water supply cannot be delivered to the project site until the SCWA facilities (Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online; therefore, project implementation would result in the need for an initial water supply for development of Phase 1A. The project applicant(s) have discussed the availability of an initial water supply with SCWA and GSWC and have identified a potential water supply for providing initial water for development of Phase 1A to the project site. Existing GSWC water that exceeds current projected maximum-day system demand could be delivered to the project as initial water supply. GSWC has indicated that it would have an adequate water supply to serve the initial phases of development up to 600 dwelling units (Gisler, pers. comm., 2005). County Improvement Standards (2006) assume 1 gpm per dwelling unit; therefore, 600 dwelling units would be equal to a maximum water supply of 600 gpm (968 afy). These water supplies would be provided until long-term water facilities have been constructed by SCWA (Gisler, pers. comm., 2005).

The project applicant(s) have submitted to the City a tentative map for Phase 1A, and it is expected that Phase 1A would require water beginning in spring/summer 2009. Phase 1A water-supply demands are based on the proposed land uses in the tentative map and were projected by applying the water-demand factor in the Zone 40 WSMP to each proposed land use. The water demands associated with Phase 1A of the High Density, Impact Minimization, and No Federal Action Alternatives are similar to or less than those of the Proposed Project Alternative because the land uses proposed under those alternatives would involve an amount of development similar to or less than that of the Proposed Project Alternative. Table 3.5-8 below summarizes the average-day, maximum-day, and peak-hour water demands for Phase 1A.

Land Use	Dwelling Units ¹	Acres	Unit Water Demand Factor ² (af/ac/yr)	Average Annual Water Demand (afy)	Maximum Annual Water Demand (afy)	Average-Day Demand (gpm)	Maximum-Day Demand (gpm)	Peak-Hour Demand (gpm)
Single-Family	485	97	2.89	280.3	560.6	173.8	347.6	695.2
Multifamily— Low Density	136	17	3.70	62.9	125.8	39.0	78.0	156.0
Multifamily— High Density	240	12	4.12	49.4	98.8	30.7	61.3	122.6
Public Recreation	—	6	3.46	20.8	41.6	12.9	25.7	51.5
Right-of-Way	—	30.4	0.21	6.4	12.8	3.9	7.8	15.6
Total	861	162.4	—	419.8	839.6	260.3	520.6	1,041.2
			7.5% system loss	31.5	63	19.5	39	78
			Total Demand	451.3	902.6	279.8	559.6	1,119.2

Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year; gpm = gallons per minute

¹ Total numbers of dwelling units based on 5 dwelling units per acre (du/ac) for single-family residential, 8 du/ac for medium-density residential, and 20 du/ac for high-density residential. Actual dwelling units may vary.

² The unit water demand factors provided in this table are consistent with the unit water demand factors used in the *Zone 40 Water Supply Master Plan* and the 2000 Water Forum Agreement.

Source: Wood Rodgers 2007a

Table 3.5-8 shows that the total projected maximum annual water demand is 902.6 afy for the Proposed Project Alternative. Table 3.5-9 compares water supply available from GSWC (968 afy) to Phase 1A water-supply demands (902.6 afy) to determine whether a reliable water supply would be available to serve Phase 1A. As shown in Table 3.5-9, GSWC has adequate water supplies to meet projected water demands under Phase 1A of the Proposed Project Alternative. Because the water demands associated with Phase 1A of the High Density, Impact Minimization, and No Federal Action Alternatives are similar to or less than those of the Proposed Project Alternative, this analysis assumes that adequate water supplies would be available to meet projected water demands for Phase 1A associated with these alternatives. As noted above, this water supply would be provided until long-term water facilities have been constructed by SCWA (Vineyard Surface WTP, the FRWP, and the NSAPP). The remaining initial development of Phase 1 would require other sources of water supply (see Impact 3.5-2 below).

**Table 3.5-9
GSWC's Available Water Supply Compared to Water Demand
Associated with the Phase 1A Tentative Map**

	Average Annual Water Demand (afy)	Maximum Annual Water Demand (afy)	Average-Day Demand (gpm)	Maximum-Day Demand (gpm)
GSWC Available Water Supply	484	968	300	600
Phase 1A Tentative Map Water Demand	451.3	902.6	279.8	559.6
Surplus	32.7	47.4	20.2	40.4

Notes: afy = acre-feet per year; gpm = gallons per minute; GSWC = Golden State Water Company
Source: Data compiled by EDAW in 2007

GSWC would supply water to SCWA, and new GSWC water conveyance infrastructure would be required to convey initial water to SCWA's existing infrastructure in White Rock Road (see Impact 3.5-3 below). Any delivery of an initial water supply would require an agreement with SCWA that must describe capital improvements required to deliver the water, the source of funding for any such improvements, the price of initial water, and a commitment of the initial supply. Other existing agreements that address water supply in this area may need to be amended. It is expected that GSWC could begin delivery of water supplies within 6–12 months after execution of a wholesale water delivery agreement with SCWA. The project applicant(s) are currently working with GSWC and SCWA to secure any necessary agreements to provide initial water supplies to the project (Gisler, pers. comm., 2005).

Because GSWC has indicated that it would have an adequate water supply to serve Phase 1A, and that this water would be available until the SCWA facilities (Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online, this water supply is considered a reliable source of potable water. Therefore, there is a reasonable likelihood that initial water supplies needed to serve Phase 1A would be available, and this impact is considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Similar]*

Based on the above analysis, there is a reasonable likelihood that initial water supplies needed to serve Phase 1A would be available. Therefore, no mitigation measures are required. In addition, under *Vineyard*, the identification and analysis of alternate sources of water and contingencies (including curtailment of development) for the project if water supply does not become available are not legally required. Although no mitigation is required, the City General Plan Infrastructure, Services, and Finance Element Actions ISF 2.4.1 and 2.4.2 requires verification that existing water supplies are available before approval of Phase 1A (see Mitigation Measures 3.5-2 and 3.5-3 below). If due to unknown or unforeseeable events, proof of water supply for Phase 1A cannot be shown upon approval per ISF 2.4.1 and 2.4.2 Actions, then development of Phase 1A would not commence and the impacts would be the same as the No Project Alternative, discussed below. Furthermore, in the event that, due to

unknown or unforeseeable events after development of Phase 1A commences, and water for Phase 1A is not available, then the analysis of alternative supplies and impacts of curtailment under Impact 3.5-2 for the remaining development of Phase 1 (see below) would apply to Phase 1A. That analysis is incorporated herein by reference.

Mitigation Measure: No mitigation measures are required.

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require the provision of an initial or permanent water supply.

Because no development would occur under the No Project Alternative, initial water supplies would not be required; thus, **no direct** or **indirect** impacts would occur. [*Lesser*]

Mitigation Measure: No mitigation measures are required.

Impact 3.5-2: Need for Initial Water Supplies for the Remaining Phase 1 Development. *Project implementation would result in a need for an initial water supply to the project site for the remaining Phase 1 development until the SCWA facilities (Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.*

Applies to: PP, HD, IM, NF.

The permanent long-term water supply cannot be delivered to the project site until the SCWA facilities (Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online. The project applicant(s) have discussed the availability of an initial water supply with SCWA and GSWC and have identified a potential water supply for providing initial water to development Phase 1A (see Impact 3.5-1 above). That water supply would be provided until long-term water facilities have been constructed by SCWA (Gisler, pers. comm., 2005). The remaining development within Phase 1 would require other sources of initial water supply, and the project applicant(s) have discussed the availability of other initial water supplies with SCWA and GSWC. The following water supply options have been identified as potential sources of water for the remaining portions of development Phase 1.

Sources of Initial Water for Remaining Development within Phase 1

Option A

Option A would use existing GSWC wells that have been decommissioned as a result of groundwater contamination. Wellhead treatment could be provided to remove contaminants from one or more wells that contain low concentrations of contaminants. Although these wells are potentially above the action levels, wellhead treatment could be provided either for currently shut-down wells or for future additional wells that exceed regulatory criteria. Wellhead treatment would require the approval of the California Department of Public Health (DPH). DPH has approved wellhead treatment similar to that proposed under Option A at other locations in California, but has not yet approved such a facility in Sacramento. If these wells were brought back online, approximately 929 gpm (1,500 afy) of water supply could be available, thereby providing GSWC's system excess capacity that could serve as an initial water supply for the project. Implementation of Option A could potentially result in water quality and other health and safety impacts from the treatment of groundwater.

Option A has been discussed with GSWC, and GSWC has indicated it could begin installation of wellhead treatment on select wells after DPH approval (Gisler, pers. comm., 2006). GSWC would supply water to SCWA, and new GSWC water conveyance infrastructure would be required to convey the initial water to SCWA's existing infrastructure in White Rock Road. Any delivery of an initial water supply under Option A would require an agreement with SCWA that must describe capital improvements required to deliver the water, the source of funding for any such improvements, the price of initial water, and a commitment of the initial supply. Other existing agreements that address water supply in this area may need to be amended. Impacts resulting from water conveyance infrastructure required for Option A could include, but are not limited to, short-term impacts on air quality associated with construction, potential impacts on special-status plants and wildlife or sensitive habitats; potential disturbance of known or unknown cultural or paleontological resources; short-term increases in erosion and stormwater runoff; and short-term increases in construction noise levels.

GSWC must reach agreement on providing the water. Its willingness to do so would depend on its evaluation of the need to deliver water to connections within its own service area. If this option were implemented, and if SCWA does not implement actions necessary to provide long-term water, the water generated could remain available for as long as needed to serve the project, as long as the candidate wells do not become necessary to meet GSWC's base supply for its current customers.

Option B

Option B would pipe groundwater treated at an Aerojet GET facility (e.g., GET J facility) to the nearby Coloma/Pyrites WTP, where it would then be blended with treated groundwater and other potable surface-water supplies. This blended water would provide excess capacity that would then be diverted to GSWC's existing customers as well as to the project on an initial basis. This option would require DPH approval, and the permitting associated with use of GET J water under Option B are considered more substantial than Option A. This option would also require an evaluation of the appropriateness of blending, including the ratio of GET water to non-GET water. Assuming a 1:1 ratio, which is possible given that the GET water is treated to drinking-water standards before blending, up to approximately 3,903 gpm (6,300 afy) could be available to serve as an initial water supply for the project. Option B could also require modifications to the GET treatment operations to meet DPH requirements. Implementation of Option B could potentially result in water quality and other health and safety impacts from the treatment of groundwater.

GSWC would supply water to SCWA, and new GSWC water conveyance infrastructure would be required to convey initial water to SCWA's existing infrastructure in White Rock Road. Any delivery of an initial water supply under Option B would require an agreement with SCWA that must describe capital improvements required to deliver the water, the source of funding for any such improvements, the price of initial water, and a commitment of the initial supply. Other existing agreements that address water supply in this area may need to be amended. Impacts resulting from water conveyance infrastructure required for Option B could include, but are not limited to, short-term impacts on air quality associated with construction; potential impacts on special-status plants and wildlife or sensitive habitats; potential disturbance of known or unknown cultural or paleontological resources; short-term increases in erosion and stormwater runoff; and short-term increases in construction noise levels.

GSWC must reach agreement on providing the water. Its willingness to do so would depend on its evaluation of the need to deliver water to connections within its own service area. If this option were implemented, and if SCWA does not implement actions necessary to provide long-term water, the water generated could remain available for as long as needed to serve the project, as long as the candidate wells do not become necessary to meet GSWC's base supply for its current customers.

Initial Water for Remaining Development within Phase 1 Water Demands

The remaining Phase 1 development water-supply demands are based on the proposed land uses minus the Phase 1A land uses shown in Table 3.5-8 above and were projected by applying the water-demand factor in the Zone 40 WSMP to each proposed land use. The water demands associated with the remaining Phase 1 development of the High Density, Impact Minimization, and No Federal Action Alternatives are similar to or less than those of the Proposed Project Alternative because the land uses proposed under those alternatives would involve an amount of development similar to or less than that of the Proposed Project Alternative. Table 3.5-10 below summarizes the average-day, maximum-day, and peak-hour water demands for the remaining Phase 1 development.

Land Use	Dwelling Units ¹	Acres	Unit Water Demand Factor ² (af/ac/yr)	Average Annual Water Demand (afy)	Maximum Annual Water Demand (afy)	Average-Day Demand (gpm)	Maximum-Day Demand (gpm)	Peak-Hour Demand (gpm)
Single-Family	965	193	2.89	557.8	1,115.6	345.6	691.2	1,382.4
Multifamily—Low Density	768	96	3.70	355.2	710.4	207.7	415.4	830.8
Multifamily—High Density	400	20	4.12	82.4	164.8	51.1	102.2	204.4
Commercial	–	139	2.75	382.3	764.6	236.9	473.8	947.6
Industrial	–	188	2.71	509.5	1,019	315.7	631.4	1,262.8
Public	–	92	1.04	95.7	191.4	59.3	118.6	237.2
Public Recreation	–	67	3.46	231.8	463.6	143.6	287.2	574.4
Right-of-Way	–	47.6	0.21	10	20	6.2	12.4	24.8
Vacant	–	–	0	0	0	0	0	0
Total	861	162.4	–	2,224.7	4,449.4	1,366.1	2,732.2	5,464.4
			7.5% system loss	166.9	333.8	102.5	205	410
			Total Demand	2,057.8	4,115.6	1,263.6	2,527.2	5,055.4

Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year; gpm = gallons per minute

¹ Total numbers of dwelling units based on 5 dwelling units per acre (du/ac) for single-family residential, 8 du/ac for medium-density residential, and 20 du/ac for high-density residential. Actual dwelling units may vary.

² The unit water demand factors provided in this table are consistent with the unit water demand factors used in the Zone 40 Water Supply Master Plan and the 2000 Water Forum Agreement.

Source: Wood Rodgers 2007a

Table 3.5-10 shows that the total projected maximum annual water demand is 4,115.6 afy for the Proposed Project Alternative. Option A (3,903 gpm or 6,300 afy) could potentially be used in combination with water supplies provided under Option B (929 gpm or 1,500 afy). If water supplies from both Options A and B became available, the total combined water supply from these sources would be approximately 4,832 gpm (7,800 afy).

Table 3.5-11 compares water supply available from Options A and B (7,800 afy) to the remaining Phase 1 development water-supply demands (4,115.6 afy) to determine whether a reliable water supply would be available to serve the remaining Phase 1 development. As shown in Table 3.5-11, Options A and B combined would have adequate water supplies to meet projected water demands under the remaining Phase 1 development of the

Proposed Project Alternative. Because the water demands associated with the remaining Phase 1 development of the High Density, Impact Minimization, and No Federal Action Alternatives are similar to or less than those of the Proposed Project Alternative, this analysis assumes that adequate water supplies would be available to meet projected water demands associated with these alternatives.

Table 3.5-11 GSWC's Options A and B Water Supply Compared to Water Demand Associated with the Remaining Phase 1 Development				
Option	Average Annual Water Demand (afy)	Maximum Annual Water Demand (afy)	Average-Day Demand (gpm)	Maximum-Day Demand (gpm)
Option A	750	1,500	464.5	929
Option B	3,150	6,300	1,951.5	3,903
Total	3,900	7,800	2,416	4,832
Remaining Phase 1 Development	2,057.8	4,115.6	1,263.6	2,527.2
Surplus	1,842.2	3,684.4	1,152.4	2,304.8
Notes: afy = acre-feet per year; gpm = gallons per minute; GSWC = Golden State Water Company Source: Data compiled by MacKay and Soms in 2008 and EDAW in 2008				

Both options would require separate agreements with GSWC and SCWA and would require DPH approval. DPH has approved wellhead treatment similar to that proposed under Option A at other locations in California, but has not yet approved such a facility in Sacramento. The permitting associated with use of GET J water under Option B are considered more substantial than Option A. Therefore, there is not reasonable certainty that one or both options would be available to serve the long-term demands of the remaining Phase 1 development.

Alternative Sources of Initial Water for Remaining Development within Phase 1

If initial water supply is limited or unavailable under Options A or B above, alternate initial water supplies would be required to serve the remaining development within Phase 1. The North Vineyard Well Field and GSWC Deep-Well Replacement Water options, described in detail below, could potentially provide other sources of this water.

North Vineyard Well Field

The idle capacity of the North Vineyard Well Field could potentially provide initial water supplies to the project. The North Vineyard Well Field is located on both sides of Excelsior Road between Florin Road and Elder Creek Road, and includes a 30-inch water pipeline to convey water to the Anatolia WTP. The well field could provide for extraction of up to 10,000 afy of groundwater for replacement and/or new water supplies to serve existing and/or proposed development within Zone 40. The North Vineyard Well Field has been identified a source of near-term and long-term groundwater supplies for the *Sunrise Douglas Community Plan/SunRidge Specific Plan* area. SCWA has allocated 7,273 afy to projects in the *Sunrise Douglas Community Plan/SunRidge Specific Plan* area. The remaining 2,727 afy could provide capacity to meet the initial needs of the project.

The first phase of the North Vineyard Well Field and Anatolia WTP (consisting of three of the wells and three of the filters) has been built, and this phase can produce and treat approximately 3,600 afy from the North Vineyard Well Field. At buildout, the Anatolia WTP will have the capacity to treat 7,300 afy and will include six filters treating water from seven wells (six operational and one emergency backup).

Implementation of this alternative water supply would require expansion of the North Vineyard Well Field by SCWA, construction of new conveyance facilities from the North Vineyard Well Field to the project site, and construction of a new water treatment plant (Coppola, pers. comm., 2008).

GSWC Deep-Well Replacement Water

Initial water could be supplied by drilling a new deep-well replacement (well #24) for wells in the westernmost portions of GSWC's service area (wells #3 and #4) that GSWC has taken out of service because of actual or anticipated contamination. Water pumped from this deep-well replacement would increase the water supplies available to GSWC by approximately 1,100 gpm. The additional water supply would serve the needs of the westernmost portions of the GSWC service area and would free capacity to serve other portions of the service area. This capacity could be allocated to the project until the completion of the Vineyard Surface WTP, the FRWP, the NSAPP, and other facilities required to provide the permanent long-term water supply.

The deep-well replacement-water concept has been discussed with GSWC in the past; however, GSWC has not committed to providing water from these replacement wells to the project. Under this option, with agreement with GSWC, any delivery of initial water supply under the deep-well replacement-water option would require an agreement with SCWA that must describe capital improvements required to deliver the water, the source of funding for any such improvements, the price of initial water, and a commitment of the initial supply. Other existing agreements that address water supply in this area may need to be amended. In addition, this option would also require extending GSWC's system to the project site and may require additional infrastructure within the system. This option would require DPH approval, and it must consider the current dimensions and migration of the contaminant plume of groundwater from the Aerojet property north of the project site and the potential that new wells could become contaminated in the future. No additional groundwater extraction would be likely to occur in this area until after GET operations upgradient from the location are online.

Impact Conclusion

To provide water supplies to the remaining development within Phase 1, the project applicant(s) have discussed the availability of other initial water supplies with SCWA and GSWC and have identified two potential water supply alternatives (Options A and B). Because both options would require separate agreements with GSWC and SCWA and would require DPH approval, this water supply is not considered a reliable source of potable water. If initial water supply under Options A or B became limited or unavailable, other sources of water would be required to provide initial water supplies for the project. These alternative sources of water have been identified and discussed above. Because there is not a reasonable likelihood that initial water supplies needed to serve remaining development in Phase 1 would be available, this impact is considered **direct** and **significant**. **No indirect** impacts would occur. *[Similar]*

Mitigation Measure 3.5-2: Submit Proof of Water Supply Availability.

Applies to: PP, HD, IM, NF.

The following shall be required for all legislative-level development projects, including community plans, general plan amendments, specific plans, rezonings, and other plan-level discretionary entitlements, but excluding tentative subdivisions maps, parcel maps, use permits, and other project-specific discretionary land-use entitlements or approvals:

- ▶ Proposed water supplies and delivery systems shall be identified at the time of development project approval to the satisfaction of the City. The water agency or company proposing to provide service (collectively referred to as "water provider") to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project. The project applicant or water provider shall make a factual showing prior to project approval that the water provider or providers

proposing to serve the development project has or have legal entitlements to the identified water supplies or that such entitlements are reasonably foreseeable by the time of subsequent, project-specific discretionary land-use entitlements or approvals. This factual showing shall also demonstrate that the water provider's identified water supply is reasonably reliable over the long term (at least 20 years) under normal, single-dry and multiple-dry years.

The following shall be required for project-specific discretionary land-use entitlements and approvals including, but not limited to, all tentative subdivision maps, parcel maps, or use permits:

- ▶ An assured water supply and delivery system shall be available or reasonably foreseeable at the time of project approval. The water agency providing service to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project.
- ▶ The project applicant, water agency (or agencies), or water company (or companies) providing water service to the project site shall make a factual showing consistent with, or the City shall impose conditions similar to, those required by Government Code section 66473.7 in order to ensure an adequate water supply for development authorized by the project. Prior to recordation of any final subdivision map, or prior to City approval of any similar project-specific discretionary land use approval or entitlement required for nonresidential uses, the project applicant or water provider shall demonstrate the availability of a long-term, reliable water supply for the amount of development that would be authorized by the final subdivision map or project-specific discretionary non-residential approval or entitlement. This assurance of water supply shall identify that the water provider has legal entitlement to the water source and that the water source is reasonably reliable (at least 20 years) under normal, dry and multiple dry years. Such demonstration shall consist of a written certification from the water provider that either existing sources are available or that needed improvements will be in place prior to occupancy.

Timing: Before approval of project-specific discretionary land-use entitlements and approvals, including all final small-lot maps; or for nonresidential projects, before issuance of use permits, building permits, or other entitlements.

Enforcement: City of Rancho Cordova Planning Department.

Implementation of Mitigation Measure 3.5-2 would reduce significant impacts related to the need for initial water supplies to serve the remaining Phase 1 development under the under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level because the City would require written certification verifying the availability of a long-term, reliable water supply for the project or that needed improvements will be in place prior to occupancy.

If water supply for remaining Phase 1 development is not available because of unknown or unforeseeable events after approval and construction of the remaining Phase 1 development begins, implementation of Mitigation Measure 3.5-2 would result in the curtailment of development, resulting in a partially built-out project. Impacts associated with the curtailment of development are evaluated below in Impact 3.5-4.

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require the provision of an initial or permanent water supply.

Because no development would occur under the No Project Alternative, initial water supplies would not be required; thus, **no direct or indirect** impacts would occur. [*Lesser*]

Mitigation Measure: No mitigation measures are required.

Impact 3.5-3: Need for Initial Off-Site Water Conveyance Facilities. *Because permanent water conveyance facilities would not be available until completion of the NSAPP, initial conveyance facilities would be required to supply and convey water to the project site.*

Applies to: PP, HD, IM, NF.

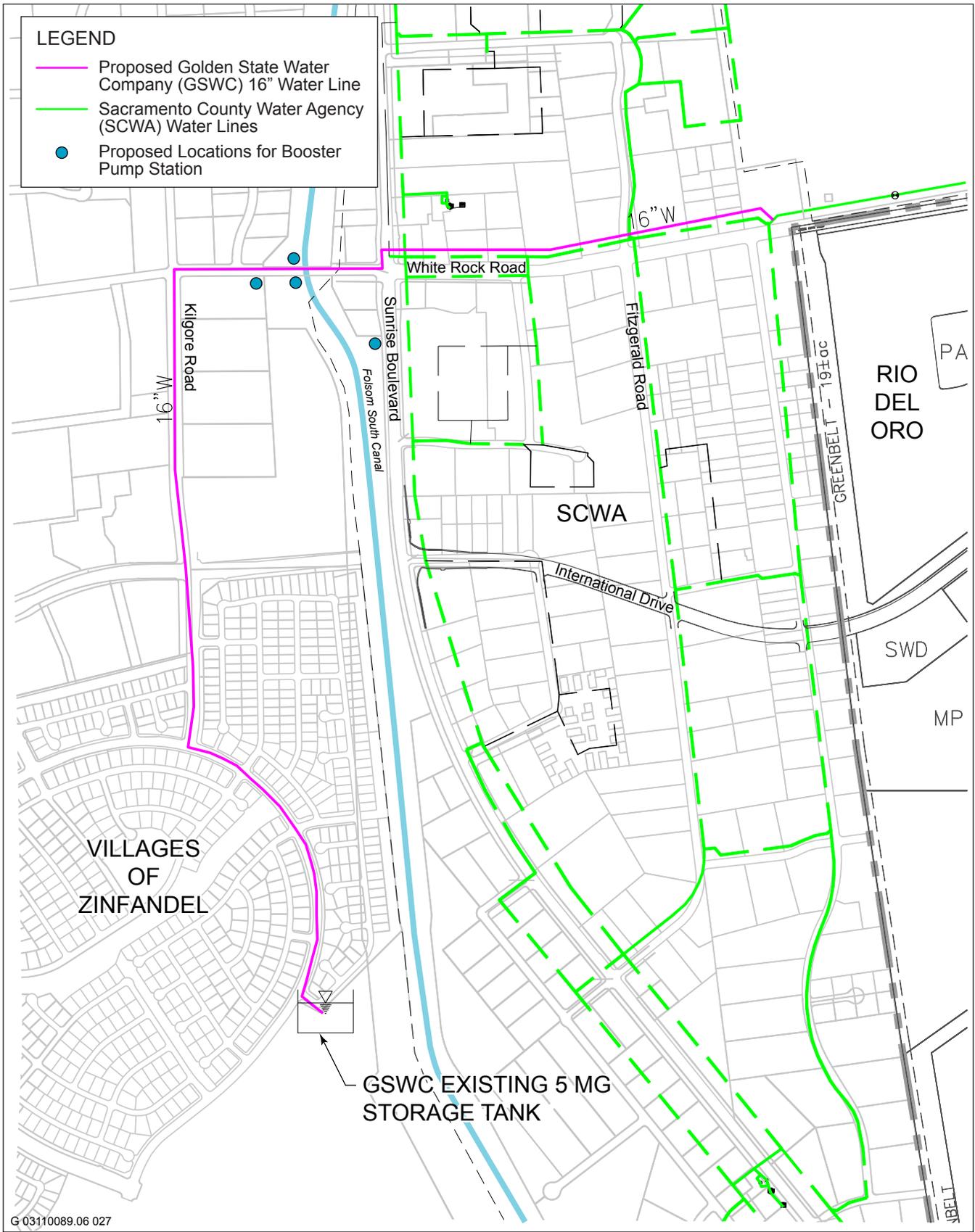
GSWC has indicated that it would have an adequate water supplies to meet projected water demands under Phase 1A (see Impact 3.5-1 above) of the proposed project. Initial off-site water conveyance facilities would be constructed to deliver water from GSWC's existing facilities to the project site. These facilities would include a new 16-inch water transmission main connecting an existing GSWC storage tank to an existing 16-inch SCWA transmission main and then to project facilities (Exhibit 3.5-1). The new pipeline would originate at an existing 5-million-gallon storage tank within the Villages at Zinfandel development southwest of the project site. The line would follow Baroque Drive north to Kilgore Road. The pipeline would then follow Baroque Drive north to Kilgore Road, north to White Rock Road, and then follow White Rock Road across the Folsom South Canal. The new transmission main would be placed underground parallel to an existing GSWC water transmission main within the existing road rights-of-way. The new transmission main would be suspended underneath the existing White Rock Road bridge crossing over the Folsom South Canal, and would connect with SCWA's existing 16-inch transmission main at the intersection of Luyung Drive and White Rock Road. The water transmission main would require an in-line booster pump to drive water supplies along the intertie. The booster pump would be placed at one of four potential locations, as depicted in Exhibit 3.5-1.

Although the new pipeline is needed to convey water from the GSWC system to the project on an initial basis, it would remain in use after the long-term water supplies for the project were constructed and online. The pipeline would then serve as an active intertie between GSWC's existing system and the existing SCWA system. As such, the pipeline would provide redundancy to both systems and act as a conveyance mechanism for SCWA to provide replacement water to GSWC in the future.

The new GSWC infrastructure described above that is required for initial water conveyance facilities necessary to serve the project has not been constructed, nor have final design plans and specifications been submitted or approved. These off-site water conveyance facilities have not been subject to CEQA or National Environmental Policy Act compliance; therefore, the following discussion analyzes environmental impacts associated with the construction of these facilities. The following impact analysis is site-specific, and the water supply pipeline would be placed in previously disturbed, existing road rights-of-way.

Air Quality

With respect to the temporary, short-term generation of criteria air pollutants (e.g., respirable particulate matter with a diameter smaller than 10 microns [PM₁₀]) and emissions of precursors (e.g., reactive organic gases [ROG] and oxides of nitrogen [NO_x]) during construction, the exact type and number of pieces of heavy-duty construction equipment, worker-commute and material-transport trips, and maximum daily acreage of disturbance required for the proposed pipe laying and construction of a pump station is not known at this time. However, temporary, short-term construction emissions of ROG and NO_x were modeled using off- and on-road emission factors contained in the Sacramento Metropolitan Air Quality Management District's (SMAQMD's) Road Construction Emissions Model Version 5.2 (SMAQMD 2006) computer program, as recommended by SMAQMD for linear-type construction projects (refer to Table 3.5-12 and Appendix O). Modeling was based on default model settings and construction information obtained for two similar projects, the Courtland and Walnut Grove Sewer Projects (County of Sacramento 2006, 2007).



Proposed GSWC Water Line and Booster Pump Station

EXHIBIT **3.5-1**

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
 City of Rancho Cordova and USACE

P 03110089.01 02/08



As shown in Table 3.5-12, construction of the proposed project would generate total unmitigated daily emissions of approximately 79 pounds per day (lb/day) of NO_x, which would not exceed SMAQMD's significance threshold of 85 lb/day. In addition, and according to SMAQMD, if a project's mass emissions (lb/day) of NO_x from mobile sources is determined to be less than the significance threshold using methodologies recommended by SMAQMD, then exhaust emissions of other pollutants (e.g., ROG, carbon monoxide [CO], nitrogen dioxide, and sulfur dioxide) from operation of construction equipment and worker commute would also be less than significant (SMAQMD 2004).

Table 3.5-12 Summary of Modeled Worst-Case Temporary, Short-Term Emissions Generated Daily by the Project during Construction	
Source	Emissions (lb/day) NO _x
Pipe Laying¹	
Exhaust from Diesel Mobile Equipment	32.0
Employee and Material-Transport Trips	1.1
Total Unmitigated (Pipe Laying)	33.1
Pump Station²	
Exhaust from Diesel Mobile Equipment	45.3
Employee and Material-Transport Trips	1.1
Total Unmitigated (Pump Station)	46.3
Maximum Daily Emissions Unmitigated (All Activities)	79.4
SMAQMD Significance Threshold	85
<p>Notes:</p> <p>lb/day = pounds per day; NO_x = oxides of nitrogen; SMAQMD = Sacramento Metropolitan Air Quality Management District</p> <p>¹ Based on off- and on-road emission factors contained in the Road Construction Emissions Model Version 5.2 (SMAQMD 2006) computer program, default model settings, and construction information obtained for similar projects (Courtland and Walnut Grove Sewer Projects [County of Sacramento 2006, 2007]). Exhaust from construction equipment includes the operation of one backhoe, one excavator, one loader, and one off-highway truck for 8 hours per day. Exhaust emissions from worker commute trips include 80 total daily one-way trips (i.e., two one-way trips per day for each of the 20 workers) of 20 miles in length. Exhaust emissions from materials transport include two total daily round trips of 30 miles in length.</p> <p>² Based on off- and on-road emission factors contained in the Road Construction Emissions Model Version 5.2 (SMAQMD 2006) computer program, default model settings, and construction information obtained for similar projects (Courtland and Walnut Grove Sewer Projects [County of Sacramento 2006, 2007]). Construction equipment exhaust includes the operation of 1 backhoe, one bore/drill rig, one compactor, one excavator, one grader, and one other piece of miscellaneous construction equipment for 8 hours per day. Exhaust emissions from worker trips include 80 total daily one-way trips (i.e., two one-way trips per day for each of the 20 workers) of 20 miles in length. Exhaust emissions from materials transport include two total daily round trips of 30 miles in length.</p> <p>Refer to Appendix O for all input assumptions and modeling results.</p> <p>Source: Data modeled by EDAW in 2007</p>	

With respect to emissions of PM₁₀, SMAQMD has developed screening-level values related to the maximum actively disturbed area of the project site (SMAQMD 2004). According to those levels, PM₁₀ emissions from projects in which less than 5 acres would be actively disturbed on any given day during construction are considered less than significant. Based on construction information obtained for similar projects (i.e., installation of 500 feet of pipeline per day, staging area of 30,000 square feet, and a booster pump station of approximately 5,000 square feet), the project would not disturb more than 5 acres per day. Thus, the proposed water supply

pipeline/pump station would result in a **less-than-significant** temporary, short-term construction-related impact because project-generated emissions would not exceed SMAQMD's applicable thresholds (e.g., 85 lb/day for NO_x and maximum disturbance area of 5 acres). No mitigation measures are required.

The long-term operation of the proposed water supply pipeline/pump station would likely only require one additional employee for the operation and maintenance of the pump station. Vehicle commute trips from one employee would result in a negligible amount of mobile-source emissions (i.e., 0.1 lb/day or less of ROG, NO_x, and PM₁₀; and 1 lb/day of CO). Furthermore, construction of these facilities would not result in the operation of any major stationary emission sources; however, long-term operation of the pump station could include the installation of an emergency backup generator. According to SMAQMD, stationary sources of air-pollutant emissions that comply with applicable regulations pertaining to best available control technology (BACT) and offset requirements are not considered to have significant air quality impacts (SMAQMD 2004). In fact, SMAQMD does not require the inclusion of such emissions in CEQA analyses unless the operation of a stationary source results in surplus emissions in excess of BACT and offsets (SMAQMD 2004). Stationary sources proposed as part of this project would be subject to SMAQMD permitting and BACT requirements. Also, in accordance with SMAQMD guidance, because electrical generation facilities for the Sacramento region are either located outside the area or offset through pollution credits, emissions from energy use are would not affect this air basin and are not included in this assessment (SMAQMD 2004). Thus, the proposed water supply pipeline/pump station would result in a **less-than-significant** long-term operational impact on air quality on both a regional and local level (e.g., CO). No mitigation measures are required.

With respect to the exposure of sensitive receptors to toxic air contaminants (TACs) and odors, construction of the project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. However, the use of such equipment would be temporary in terms of both the overall construction schedule and the fact the activities would move along the proposed pipeline route. In addition, project construction activities would not result in excessive materials transport or associated truck travel; and studies show a large drop-off (e.g., 70%) in diesel particulate matter 500 feet from the source (ARB 2005). Long-term operation of the pump station could include the installation of a diesel-fueled emergency backup generator that would operate for maintenance purposes and during actual interruption of power only. As discussed above, this, in addition to any other stationary sources that may emit TACs, would be subject to SMAQMD permitting and BACT for TACs (T-BACT) requirements. Thus, the proposed water supply pipeline/pump station would result in a **less-than-significant** short- and long-term impact with respect to the exposure to sensitive receptors to emissions of TACs or odors. No mitigation measures are required.

Lastly, construction of the proposed water supply pipeline would also result in the generation of emissions of greenhouse gases (e.g., carbon dioxide) from the use of on-site heavy-duty construction equipment and worker commute and material transport trips. However, such emissions would be finite in nature (e.g., only occurring during construction, not every year of operation); and based on project size and type would not be anticipated to result in a cumulatively considerable increase in greenhouse gases. In addition, as discussed above, the long-term operation of the proposed project would not result in any major sources of emissions. Thus, the proposed water supply pipeline/pump station would result in a **less-than-significant** impact with respect to the generation of greenhouse gases. No mitigation measures are required.

Biological Resources

The Folsom South Canal is a Reclamation water conveyance facility, and construction of the pipeline over the canal (underneath the existing roadway bridge) could require issuance of an encroachment permit from Reclamation. Consultation with this agency regarding the need for and authorization of an encroachment permit would therefore be required. Construction of the pipeline and booster pump would not result in adverse effects on biological resources, because the construction would occur in previously disturbed, existing roadways and developed areas that do not support special-status species or habitats, including wetlands. Therefore, the proposed

water supply pipeline/pump station would result in a **less-than-significant** impact related to biological resources. No mitigation measures are required.

Cultural Resources

For purposes of this analysis, impacts on cultural resources are considered significant if they would adversely affect unique archaeological resources, as defined in Section 21083.2(g) of the Public Resources Code, or cause substantial adverse changes in the significance of historical resources as defined in Section 15064.5(a) of the State CEQA Guidelines.

To determine whether the water pipeline would affect recorded cultural resources, a records search was conducted at the North Central Information Center of the California Historical Resources Information System on November 6, 2007. The records search revealed that the entire alignment for the proposed pipeline and booster pump station and the surrounding landscape was once covered in a deep pile of cobbles and rubble generated during historic gold mining and dredging along the American River. This large field of dredge tailings was designated with the unique identifier or “trinomial” CA-Sac-308-H. The U.S. Geological Survey 7.5-minute map of the Carmichael quadrangle from 1967 also indicates that the entire landscape surrounding the pipeline and booster pump station consisted of a field of dredge tailings. Despite the presence of this feature, several surveys have covered the majority of the alignment for the proposed pipeline, revealing no cultural resources (County of Sacramento 1981, 2004; U.S. Army Corps of Engineers 1995). Inspection of aerial photographs for the alignment and the vicinity reveals that the landform has been graded and developed, removing all traces of the dredge tailings. Because the dredge tailings have been completely removed, because the landform has been mechanically graded, and because subsequent pedestrian surveys found no resources, the proposed pipeline route and booster station locations evince an extremely low sensitivity for cultural resources. Furthermore, because the new water-supply pipeline would be placed parallel to an existing GSWC water transmission main in disturbed road rights-of-way, the sensitivity for undiscovered buried resources is low. However, there is always a possibility of encountering intact, unknown buried cultural resources or human remains, and this could result in **direct, potentially significant** impacts on cultural resources.

Mitigation Measure: Implement 2006 DEIR/DEIS Mitigation Measure 3.9-3 (Provide Preconstruction Worker Education and Stop Potentially Damaging Work if Human Remains are Uncovered During Construction).

Drainage, Hydrology, and Water Quality

The proposed water-supply pipeline would be placed in the rights-of-way of existing roads, and the new water-supply pipeline has been designed to appropriately convey runoff from upstream, off-site areas and detain runoff generated by the project on-site. Therefore, the proposed water-supply pipeline would result in **direct, less-than-significant** impacts related to increased total volume and the peak discharge rate of stormwater runoff, long-term impacts on water quality, and effects on groundwater recharge. No mitigation measures are required.

The water-supply pipeline and pump station would incorporate the design criteria described in detail in the *Master Drainage Study for Rio del Oro* (Wood Rodgers 2005), which requires review and incorporation of hydrologic analyses of the entire area, including the *Master Drainage Study for the Villages of Zinfandel* (Wood Rodgers 2003) where much of the pipeline alignment would be located. Therefore, the proposed water-supply pipeline would result in **direct, less-than-significant** impacts related to exposure of people or structures to significant flooding risk caused by failure of a levee. No mitigation measures are required.

The proposed water-supply pipeline would result in temporary, short-term construction-related impacts. Such activities could result in soil erosion, stormwater discharges of suspended solids, and increased turbidity and potential mobilization of other pollutants from project construction sites to flow as contaminated runoff to drainage channels on-site and ultimately off-site. Many construction-related wastes have the potential to degrade existing water quality by altering the dissolved-oxygen content, temperature, pH, suspended-sediment and turbidity levels, or nutrient content, or by causing toxic effects on the aquatic environment. Project construction

activities that are implemented without mitigation could violate water quality standards or cause direct harm to aquatic organisms. Therefore, construction-related activities could result in **direct, potentially significant** impacts on hydrology, drainage, and water quality.

Mitigation Measure: Implement 2006 DEIR/DEIS Mitigation Measure 3.4-3 (Implement Measures or Best Management Practices to Reduce Water Quality Effects of Temporary Construction Activities).

Environmental Justice

The proposed water-supply pipeline would provide water supplies to new housing and other land uses identified for the proposed project. The proposed water-supply pipeline and pump station itself would not cause a disproportionately high and adverse impact on low-income populations or create a disproportionate placement of adverse environmental impacts on minority communities. Therefore, the water-supply pipeline and pump station would result in **no direct** or **indirect** impacts on environmental justice. No mitigation measures are required.

Geology, Soils, and Mineral Resources

Construction activities would result in the temporary, short-term disturbance of soil and would expose disturbed areas to winter storm events, which could result in soil runoff and localized erosion. A **direct, potentially significant** impact from soil erosion could result from construction activities.

The project site has relatively flat topography and is not located in or near a landslide hazard area, and known active seismic sources are located within 30 miles of the pipeline and pump station installation area. Therefore, potential damage to structures from seismic activity and related geologic hazards would be a **direct, less-than-significant** impact. No mitigation measures are required.

Construction would take place on land that was originally composed of dredge tailings and the Red Bluff/Redding soil complex. Because of development that has occurred in the area, the soil is now a mixture of types that would fall under the soil description of “Urban Land.” This soil has a moderate stability and low to moderate shrink-swell potential; therefore, potential damage from construction on unstable soils would be a **direct, less-than-significant** impact. No mitigation measures are required.

The proposed water-supply pipeline and pump station would be located within the Sacramento-Fairfield Production-Consumption Region, a mineral resources area designated by California Division of Mines and Geology as regionally significant to satisfy future needs. Most of the development in the vicinity of the proposed water-supply pipeline and pump station was constructed in areas of dredge tailings (cobbles and silt) derived from mining activities conducted during the last 100 years. The nearby Rio del Oro project site has been and continues to be mined by aggregate companies. Any economically viable sand and gravel resources would not be affected by the placement of the proposed water-supply pipeline within the rights-of-way of existing roads. Because the area has been mined in the past, the loss of access to the approximately 40-foot by 50-foot pump station would not result in the loss of an economically viable local or regional mineral-resource recovery site. Therefore, the potential loss of mineral resources would be a **direct, less-than-significant** impact. No mitigation measures are required.

Mitigation Measure: Implement 2006 DEIR/DEIS Mitigation Measure 3.4-3 (Implement Measures or Best Management Practices to Reduce Water Quality Effects of Temporary Construction Activities).

Hazards and Hazardous Materials

There is no known contaminated soil or groundwater at the locations where the water-supply pipeline and pump station are proposed. Project construction would involve the temporary, short-term storage, use, and transport of hazardous materials (e.g., asphalt, fuel, lubricants, and solvents) on local roadways. Transportation of hazardous materials on area roadways is regulated by the California Highway Patrol and the California Department of

Transportation, and use of these materials is regulated by DTSC, as outlined in Title 22 of the California Code of Regulations. The project's builders, contractors, and suppliers would be required to use, store, and transport hazardous materials in compliance with federal, state, and local regulations during project construction and operation of the pump station; therefore, the project would not create a significant hazard to the public or the environment. There are no schools serving kindergarten through 12th grade students within one-half mile of the project site. The project site is not located on the Cortese List of hazardous materials sites. Although the project site would be located within the area covered by the *Mather Airport Land Use Plan*, construction of the underground pipeline and the pump station would have no effect on safety related to the airport. Impacts related to implementation of emergency plans are addressed below under "Public Services." Because the project site and vicinity are in an urban area that is already developed, there would be no impact related to wildfire hazards. Therefore, there would be **no direct or indirect** impacts related to hazards and hazardous materials. No mitigation measures are required.

Land Use

Because the proposed water-supply pipeline would be placed in the rights-of-way of existing roads, it would not divide an established community, and it would be consistent with the City General Plan, zoning designations, and other adopted land use plans, policies, and regulations. Therefore, the proposed water-supply pipeline and pump station would result in **direct, less-than-significant** impacts related to land use. No mitigation measures are required.

Noise

Noise levels from project construction activities could temporarily exceed applicable standards at nearby noise-sensitive receptors. Typical noise levels attributable to heavy-construction equipment are listed in Table 3.16-8 of Chapter 16, "Noise," in the 2006 DEIR/DEIS. Conservatively, it is predicted that the noise levels attributable to construction of the water-supply pipeline at a typical outdoor activity area adjacent to pipeline construction would be 72.8 A-weighted decibels (dBA) equivalent noise level (L_{eq}) at 65 feet. Existing 6-foot noise barriers line the roadways where construction would occur. The noise reduction provided by the noise barriers would be approximately 5 dBA, resulting in an outdoor noise level of approximately 68.1 dBA L_{eq} at 65 feet relative to the first floor of existing residences. Interior noise levels at the second floor of residences (which are above the soundwall) would be expected to reach approximately 48 dBA L_{dn} . Thus, construction noise levels would exceed the City's standards for exterior and interior noise levels (at second-floor receptors only) of 60 dBA L_{dn} and 45 dBA L_{dn} , respectively. However, the City's noise ordinance provides that any construction occurring between the hours of 7 a.m. and 6 p.m. is exempt from the noise standards. Therefore, construction-generated noise would result in a **direct, less-than-significant**, temporary, short-term noise impact on nearby noise-sensitive land uses. No mitigation measures are required.

Paleontological Resources

According to the geologic map prepared by Wagner et al. (1987), the proposed water-supply pipeline would be constructed within the Laguna Formation. In its standard guidelines for assessment and mitigation of adverse impacts on paleontological resources, the Society of Vertebrate Paleontology (1995) established three categories of sensitivity for paleontological resources: high, low, and undetermined. Areas where fossils have been found previously are considered to have high sensitivity and a high potential to produce fossils. In areas of high sensitivity that are likely to yield unique paleontological resources, full-time monitoring is typically recommended during any project-related ground disturbance. Areas that are not sedimentary in origin and that have not been known to produce fossils in the past typically are considered to have low sensitivity, and monitoring is usually not needed during project construction. In keeping with the significance criteria of the Society of Vertebrate Paleontology (1995), all vertebrate fossils are generally categorized as being of potentially significant scientific value. Sediments referable to the Laguna Formation are generally devoid of vertebrate fossils, and no previously recorded fossil sites from this formation are known from either the project site or the

surrounding area. Thus, sediments that underlie the proposed water-supply pipeline and pump station are considered to be of low paleontological sensitivity. Therefore, the potential for project-related construction activities to affect unique paleontological resources would result in a **direct, less-than-significant** impact. No mitigation measures are required.

Parks and Recreation

The proposed water-supply pipeline would provide water supplies to new housing and other land uses identified for the proposed project. The proposed water-supply pipeline and pump station itself would not increase demand for parks and recreational facilities. Therefore, the water-supply pipeline and pump station would result in **no direct** impacts on parks and recreation. The construction of the proposed water-supply pipeline and pump station would result in **indirect, less-than-significant** impacts on parks and recreation facilities, and these impacts are addressed in Chapter 3.12, “Parks and Recreation,” of the DEIR/DEIS. No mitigation measures are required.

Population, Employment, and Housing

The proposed water-supply pipeline would provide water supplies to new housing and other land uses identified for the proposed project. The proposed water-supply pipeline and pump station itself would not increase population. Therefore, the water-supply pipeline and pump station would result in **no direct** impacts on these population, employment, and housing. The construction of the proposed water-supply pipeline and pump station would result in **indirect, less-than-significant** impacts on these public services, and these impacts are addressed in Chapter 3.2, “Population, Employment, and Housing,” of the DEIR/DEIS. No mitigation measures are required.

Public Services

The proposed water-supply pipeline would provide water supplies to new housing and other land uses identified for the proposed project. The proposed water-supply pipeline and pump station itself would not increase demand for fire protection facilities, services, and equipment; police protection facilities, services, and equipment; and school facilities and services. Therefore, the water-supply pipeline and pump station would result in **no direct** impacts on these public services. The construction of the proposed water-supply pipeline and pump station would result in **indirect, less-than-significant** impacts on these public services, and these impacts are addressed in Chapter 3.6, “Public Services,” of the DEIR/DEIS. No mitigation measures are required.

Construction activities could result in temporary lane closures, increased truck traffic, and other roadway effects that could slow or stop emergency vehicles, temporarily increasing response times and impeding existing service. Therefore, the proposed water-supply pipeline and pump station would result in **direct, potentially significant** impacts related to the temporary obstruction of roadways during construction.

Mitigation Measure: Implement 2006 DEIR/DEIS Mitigation Measure 3.6-1 (Prepare and Implement Traffic Control Plans).

Traffic and Transportation

Short-term, temporary impacts of construction on traffic are addressed above under “Public Services.” Water supply pipeline and pump station installation would not result in permanent increases to roadway or intersection level of service standards or increases in peak hour traffic volumes. Therefore, the proposed water supply pipeline/pump station would result in **no direct or indirect** impacts related to traffic and transportation. No mitigation measures are required.

Utilities and Service Systems

The proposed water-supply pipeline would provide water supplies to new housing and other land uses identified for the proposed project. The proposed water-supply pipeline and pump station itself would not increase demand for water; wastewater service; solid-waste disposal, or electricity, natural gas, and communications services and systems. Therefore, the water-supply pipeline and pump station would result in **no direct** impacts on utilities and service systems. The construction of the proposed water-supply pipeline and pump station would result in **indirect, less-than-significant** impacts on utilities and services systems, and these impacts are addressed in Chapter 3.5, “Utilities and Service Systems,” of the DEIR/DEIS. No mitigation measures are required.

Visual Resources

Installation of the water-supply pipeline would occur within an existing urban area that is developed with residential, commercial, and industrial land uses; therefore, installation of the underground pipeline and a small aboveground pump station would not degrade the surrounding visual character. There are no state-designated scenic highway segments adjacent to the water-supply pipeline or pump station site. The areas where these facilities would be installed are not visible from any state- or County-designated scenic highways or roadways. Roadway disturbance during construction would be short-term, temporary, and of relatively short duration. Therefore, the proposed water-supply pipeline and pump station would result in **direct, less-than-significant** impacts on visual resources. No mitigation measures are required.

Impact Conclusion

Because the infrastructure required for initial water conveyance facilities necessary to serve the project has not been constructed, nor have final design plans and specifications been submitted, this impact is considered **direct and potentially significant**. In addition, as described above, environmental impacts associated with the construction of these facilities could result in **indirect and significant** impacts on cultural resources and **indirect and potentially significant** impacts on drainage, hydrology, and water quality; geology and soils; and public services. Mitigation measures for these indirect impacts are listed above. *[Similar]*

Mitigation Measure 3.5-3: Submit Proof of an Off-Site and On-Site Infrastructure Delivery System or Assure that Adequate Financing is Secured.

Applies to: PP, HD, IM, NF.

The following shall be required for all legislative-level development projects, including community plans, general plan amendments, specific plans, rezonings, and other plan-level discretionary entitlements, but excluding tentative subdivisions maps, parcel maps, use permits, and other project-specific discretionary land-use entitlements or approvals:

- ▶ All required water treatment and delivery infrastructure for the project shall be in place at the time of subsequent, project-specific discretionary land-use entitlements or approvals, or shall be assured prior to occupancy through the use of bonds or other sureties to the City’s satisfaction. Water infrastructure may be phased to coincide with the phased development of large-scale projects.

The following shall be required for project-specific discretionary land-use entitlements and approvals including, but not limited to, all tentative subdivision maps, parcel maps, or use permits:

- ▶ Off-site and on-site water infrastructure sufficient to provide adequate water to the subdivision shall be in place prior to the issuance of building permits or their financing shall be assured to the satisfaction of the City prior to the approval of the Final Map, consistent with the requirements of the Subdivision Map Act, or prior to the issuance of a similar, project-level entitlement for nonresidential land uses.

- ▶ Off-site and on-site water distribution systems required to serve the subdivision shall be in place and contain water at sufficient quantity and pressure prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.

Timing: Before the approval of project-specific, discretionary land-use entitlements and approvals, including all final small-lot maps, or for nonresidential projects, before the issuance of use permits, building permits, or other entitlements.

Enforcement: City of Rancho Cordova Planning Department.

Implementation of Mitigation Measure 3.5-3 would reduce direct, potentially significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives related to off-site water conveyance facilities to a **less-than-significant** level, because off-site water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be in place before recordation of any final small-lot subdivision map, or before the City approves any similar project-specific, discretionary approval or entitlement required for nonresidential uses. Implementation of Mitigation Measures 3.4-3, 3.6-1, and 3.9-3 from the 2006 DEIR/DEIS would reduce indirect significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives related to off-site water conveyance facilities to a **less-than-significant** level, because adverse impacts on cultural resources would be avoided, appropriate BMPs would be implemented to control erosion, and a traffic plan would be developed and implemented during construction activities.

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require the provision of new water conveyance facilities because mining activities would not create a need for new initial water supplies and conveyance facilities.

Because no development would occur under the No Project Alternative, initial water supplies would not be required; thus, the initial water-supply infrastructure would not be required, and **no direct** or **indirect** impacts would occur. [*Lesser*]

Mitigation Measures: No mitigation measures are required.

Impact 3.5-4: Temporary Curtailment of Project Development. *Implementation of Mitigation Measure 3.5-2 (for initial supplies) could result in the temporary curtailment of development during the period of time when the project would be dependent on the initial water supplies, resulting in a partially built-out project.*

Applies to: PP, HD, IM, NF.

Because the long-term water supply cannot be delivered to the project site until the SCWA facilities (the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online, the project applicant(s) have discussed the availability of an initial water supply and infrastructure with SCWA and GSWC. As a result of these discussions, the project applicant(s) have identified potential water-supply options and necessary off-site water conveyance facilities for providing initial water to the project site (see Impacts 3.5-1, 3.5-2, and 3.5-3 above for details). GSWC has indicated that it would have an adequate water supply to serve Phase 1A. This water supply is considered a reliable source of potable water; therefore, there is reasonable likelihood that initial water supplies needed to serve Phase 1A would be available. However, to meet the potable-water demand of the remaining development within Phase 1, the project applicant(s) have identified two additional water supply options (Options

A and B). If neither of these water supply options is approved, water supplies may not be available to meet the demands of the remaining development within Phase 1.

Implementation of Mitigation Measures 3.5-2 and 3.5-3 would require the City to make a factual showing that demonstrates the availability of a water supply from a public water system and adequate water conveyance facilities for the amount of development that would be authorized by the approval or entitlement at issue. If the initial water conveyance facilities are delayed or not constructed, no Phase 1 development could be approved. If Options A and/or B water supplies necessary to serve the remaining development Phase 1 are delayed or not constructed, or if all available initial water supply is allocated and no additional initial water supplies are available, or if long-term water supplies or conveyance facilities are delayed or not available, implementation of these mitigation measures would cause project development to be curtailed, resulting in a project that is only partially constructed. The following analysis discusses the potential environmental effects of curtailing project development. Such curtailment also could result from climatic or other environmental conditions that are unforeseen and cannot be predicted or from unexpected regulatory or legal developments.

Although curtailment would be most probable after the construction of Phase 1A, the analysis assumes curtailment of development could occur at any time. It is important to note that any effects of the curtailment are likely to be temporary and would be ameliorated upon receipt of the long-term water supply. In many respects, this is not dissimilar to what commonly occurs in the land development and construction business as a result of the cyclical nature of housing demand. Projects are often partially built and awaiting additional market-driven housing demand before they can be completed.

Land Use

Approval of final maps for each phase of development would be consistent with those currently identified in the land use plans evaluated in the 2006 DEIR/DEIS and would be consistent with the City General Plan's land use designations and zoning. In addition, the project would be consistent with the Sacramento County Local Agency Formation Commission's guidelines and the *Mather Airport Land Use Plan*. Curtailment of development could result in conflicts between the project and the Sacramento Area Council of Governments' Sacramento Region Blueprint. As explained in Section 3.1, "Land Use," of the 2006 DEIR/DEIS, the Proposed Project Alternative and High Density Alternative would develop land uses similar to those shown in the Preferred Blueprint Scenario (see Exhibit 3.1-1 in Section 3.1 of the 2006 DEIR/DEIS) and be consistent with the Sacramento Area Council of Governments (SACOG) Blueprint. However, the Blueprint envisions a higher density of development on the project site than proposed under the Impact Minimization Alternative and No Federal Action Alternative and those alternatives would result in inconsistency with the Sacramento Region Blueprint and a significant and unavoidable impact. Therefore, to the extent curtailment would result in lower density development than that envisioned under the SACOG Blueprint, curtailment could result in a significant land use impacts due to inconsistency with the SACOG Blueprint. This impact, similar to the impact of the Impact Minimization and No Federal Action Alternative, would be significant and unavoidable.

Population, Employment, and Housing

Project implementation would result in the development of new residential units, which would cause a direct increase in population. Increases in population and housing would be proportional to the amount of development occurring on the project site. Specific indirect impacts (e.g., traffic congestion, air quality degradation, and noise generation) and direct impacts (e.g., land conversions, commitment of resources, and other mechanisms associated with the development needed to accommodate increased population) would be expected to temporarily decrease with curtailment of development. Population growth by itself is not considered a significant environmental impact. Development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts through land conversions, commitment of resources, and other mechanisms. Direct impacts associated with the development needed to accommodate increased population are

evaluated in appropriate sections of the 2006 DEIR/DEIS. In this context, impacts related to population growth from curtailment of development would be less than significant, and no mitigation measures are required.

Currently, the City's strong employment base equates to a jobs/housing balance of 3:1, meaning that there are three job opportunities in Rancho Cordova for every one household and that Rancho Cordova has more jobs than employed residents. If development were curtailed, job opportunities associated with commercial and industrial development would be temporarily reduced. Other development projects in the city would include commercial and industrial uses, thus potentially providing employment opportunities that would otherwise be available on-site under a scenario without curtailment. Any such external effects, however, are not expected to be incrementally considerable or significant in and of themselves, and after project construction is reinitiated, job opportunities would continue to be developed. Therefore, impacts related to curtailment of development on employment would be the same as those described in Section 3.2, "Population, Employment and Housing," of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No mitigation measures are required.

Environmental Justice

Project implementation would not cause a disproportionately high and adverse impact on low-income populations or create a disproportionate placement of adverse environmental impacts on minority communities. Therefore, impacts related to curtailment of development on environmental justice would be the same as those described in Section 3.3, "Environmental Justice," of the 2006 DEIR/DEIS (less than significant), and no new impacts would result from curtailment of development. No mitigation measures are required.

Drainage, Hydrology, and Water Quality

Project implementation would result in an increased risk of flooding, construction-related and long-term impacts on water quality, and effects on groundwater recharge. These impacts would be proportional to the amount of development occurring on the project site; curtailing development would temporarily reduce some of the impacts associated with hydrology and water quality. Implementation of mitigation measures identified in Section 3.4, "Drainage, Hydrology, and Water Quality," of the 2006 DEIR/DEIS would reduce impacts on drainage, hydrology, and water quality to a less-than-significant level. Because each phase of development would implement these mitigation measures, impacts related to curtailment of development on drainage, hydrology, and water quality would be the same as those described in Section 3.4 of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No new mitigation measures are required.

Utilities and Service Systems

Wastewater Treatment and Conveyance Facilities

Project implementation would increase the demand for wastewater treatment and conveyance facilities. Impacts related to the increased demand for such facilities would be proportional to the amount of development occurring on the project site; curtailing development would temporarily reduce the need for additional wastewater treatment and conveyance facilities to serve the project. Development of any phase of the project would require construction of wastewater conveyance facilities. Each phase of development would implement these mitigation measures, and impacts related to curtailing development on demands for wastewater treatment and conveyance facilities would be the same as those described in Section 3.5, "Utilities and Service Systems," of the 2006 DEIR/DEIS; no new impacts would result from curtailment of development. No new mitigation measures are required.

Nonpotable-Water Supplies and Infrastructure

Project implementation could result in the use of nonpotable-water supplies and infrastructure to provide landscaping and open space irrigation. Initially, the demands for nonpotable water would be met by the project's potable water-supplies. In the long term, it is assumed that future supplies of nonpotable water would be provided by SRCSD or by GET-Remediated Water facilities, when a sufficient supply of nonpotable water is available to

meet project demands. The on-site recycled-water conveyance facilities would follow the same alignment as, and would be installed at the same time as, the potable-water conveyance facilities. As explained in Section 3.5, “Utilities and Service Systems,” of the 2006 DEIR/DEIS and in this Recirculated DEIR/ Supplemental DEIS, the project would install a nonpotable-water system that would supply recycled water for the project site in the future when such water becomes available; therefore, the project would comply with the City’s recycled-water ordinance. No new impacts would result from curtailment of development. No new mitigation measures are required.

Solid Waste Disposal

Project implementation would increase generation of solid waste. The demand for these services would be proportional to the amount of development occurring on the project site; therefore, curtailment of development would temporarily reduce generation of solid waste. In addition, the project would be served by the Kiefer Landfill, which has available capacity to last for 40 years. This landfill has sufficient permitted capacity to accommodate the project’s needs for solid-waste disposal. Impacts would be less than significant and no mitigation measures are required. Therefore, impacts of curtailing development on generation of solid waste would be the same as those described in Section 3.5, “Utilities and Service Systems,” of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No new mitigation is required.

Electrical, Natural Gas, and Communications Service and Infrastructure

Project implementation would increase the demand for electricity, natural gas, and communications service and infrastructure. The demand for these services would be proportional to the amount of development occurring on the project site. Curtailment of development would temporarily reduce the need for additional electricity, natural gas, and communications service and infrastructure. In addition, electrical, natural gas, and communications service providers are able to provide service and infrastructure to the project site, and the increase in demand for these resources would not be substantial in relation to existing service needs. Impacts would be less than significant and no mitigation measures are required. Therefore, impacts of curtailing development on demand for electricity, natural gas, and communications service and infrastructure would be the same as those described in Section 3.5, “Utilities and Service Systems,” of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No mitigation measures are required.

Public Services

Fire Protection Services, Facilities, and Equipment

Project implementation would result in a need for additional fire protection facilities and personnel to serve the project at full buildout. These impacts would be proportional to the amount of development occurring on the project site. Curtailment of development would temporarily reduce the need for additional fire protection services, facilities, and equipment to serve the project. The Fire Station Replacement Program includes a proposal to build a new station in the Sunrise Boulevard/Douglas Road area of Rancho Cordova, south of the project site to accommodate new development in the project area. Construction of this station has not yet begun (Sacramento Metropolitan Fire District 2008). Curtailing development would reduce the need for this station in the short term. In addition, implementation of mitigation measures identified in Section 3.6, “Public Services,” of the 2006 DEIR/DEIS would reduce impacts associated with demands for fire protection facilities, services, and equipment to a less-than-significant level. Because each phase of development would implement these mitigation measures, impacts of curtailing development on demands for fire protection facilities, services, and equipment would be the same as those described in Section 3.6 of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No new mitigation is required.

Police Protection Services, Facilities, and Equipment

Project implementation would result in a need for additional police protection facilities and personnel to serve the project at full buildout. These impacts would be proportional to the amount of development occurring on the project site. Curtailment of development would temporarily reduce the need for additional police protection services, facilities, and equipment to serve the project. Implementation of mitigation measures identified in Section 3.6, “Public Services,” of the 2006 DEIR/DEIS would reduce impacts associated with demands for police protection facilities, services, and equipment to a less-than-significant level. Because each phase of development would implement these mitigation measures, impacts of curtailing development on demands for police protection facilities, services, and equipment would be the same as those described in Section 3.6 of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No new mitigation measures would be required.

Schools

The project would increase the demand for school facilities and services. Project implementation would result in construction of six elementary schools and one middle/high school, with one elementary school and the middle/high school constructed as part of Phase 1 development. Curtailing the project could lead to delays in the construction of Phase 1 schools within the project site and could cause additional busing and use of facilities by school districts until development reached the necessary trigger for school construction. However, as required by state law, the project applicant(s) would pay the state-mandated school impact fees to Folsom Cordova Unified School District to mitigate impacts on schools. The California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. Therefore, impacts of curtailing development on demands for school services and facilities would be the same as those described in Section 3.6, “Public Services,” of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No mitigation is required.

Geology, Soils, and Mineral Resources

Project implementation could result in impacts associated with construction-related erosion and unstable soils. Although curtailing development would temporarily reduce the amount of land developed, the same impacts related to erosion and unstable soils would still occur. Implementation of mitigation measures identified in Section 3.7, “Geology, Soils, and Mineral Resources,” of the 2006 DEIR/DEIS would reduce impacts on geology, soils, and mineral resources to a less-than-significant level. Because each phase of development would implement these mitigation measures, impacts of curtailing development on geology, soils, and mineral resources would be the same as those described in Section 3.7 of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No new mitigation is required.

Paleontological Resources

Project implementation would not result in loss of or damage to previously unknown paleontological resources. Impacts would be less than significant and no mitigation measures are required. Therefore, impacts of curtailing development on paleontological resources would be the same as those described in Section 3.8, “Paleontological Resources,” of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No mitigation is required.

Cultural Resources

Project implementation could result in loss of or damage to known or as-yet-discovered cultural resources. Implementation of mitigation measures identified in Section 3.9, “Cultural Resources,” of the 2006 DEIR/DEIS would reduce impacts on cultural resources to a less-than-significant level. Because each phase of development would implement these mitigation measures, impacts of curtailing development on cultural resources would be

the same as those described in Section 3.9 of the 2006 DEIR/EIS, and no new impacts would result from curtailment of development. No new mitigation is required.

Biological Resources

Project implementation could result in the loss and degradation of biological resources. These impacts would be proportional to the amount of development occurring on the project site; curtailing development would temporarily reduce some of the impacts on biological resources. As explained in Section 3.10, “Biological Resources,” of the 2006 DEIR/DEIS and in this Recirculated DEIR/Supplemental DEIS, several biological resources impacts—those related to jurisdictional wetlands and other waters of the United States, and waters of the state; the loss and degradation of sensitive natural communities; and the loss and degradation of habitat for special-status wildlife species—would be direct and less than significant with mitigation but would result in indirect significant and unavoidable impacts. Thus, curtailing development is unlikely to substantially increase the project’s already significant impacts on biological resources, and no new impacts would result from curtailment of development. No new mitigation is required.

Visual Resources

Project implementation would result in degradation of the visual character of the project site and would create light, glare, and skyglow; these impacts would be proportional to the amount of development occurring on the project site. Curtailing development would temporarily reduce some of the effects related to visual character, light, and glare. As explained in Section 3.11, “Visual Resources,” of the 2006 DEIR/DEIS, impacts on visual resources related to degradation of the project site’s visual character and increased skyglow effects are significant and unavoidable. Thus, curtailing development is unlikely to substantially increase the project’s already significant impacts on visual resources, and no new impacts would result from curtailment of development. No new mitigation is required.

Parks and Recreation

Increases in demand for parks and recreation facilities would be proportional to the amount of development occurring on the project site. Curtailment of development would temporarily reduce demands for these facilities. Implementation of mitigation measures identified in Section 3.12, “Parks and Recreation,” of the 2006 DEIR/DEIS would reduce impacts associated with increased demand for parks and recreational facilities to a less-than-significant level. Because each phase of development would implement these mitigation measures, impacts of curtailing development would be the same as those described in Section 3.12 of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No new mitigation is required.

Hazards and Hazardous Materials

Project implementation could expose construction workers and the public to hazardous materials associated with contaminated soil, building materials, and mining activities. Implementation of mitigation measures identified in Section 3.13, “Hazards and Hazardous Materials,” of the 2006 DEIR/DEIS would reduce impacts associated with hazards and hazardous materials to a less-than-significant level. Because each phase of development would implement these mitigation measures, impacts of curtailing development on hazards and hazardous materials would be the same as those described in Section 3.13 of the 2006 DEIR/DEIS, and no new impacts would result from curtailment of development. No new mitigation is required.

Traffic and Transportation

Increases in traffic are proportional to the amount of development occurring on the project site. There are a number of off-site roadway improvements for which the project applicant(s) would pay a fee. If project development were curtailed, those fees would not be paid until a water supply became available and development resumed. On the other hand, the project also would not generate traffic warranting the payment of the fee and,

presumably, the improvement. It is recognized that a perfect match will not always exist between fees collected and the timing of roadway improvements, and that market conditions often similarly curtail projects and the payment of fees that might otherwise be expected. Thus, in some instances there may be insufficient fees (from the project and other projects competing for limited water supplies) to pay for needed improvements; in other instances, there may not be sufficient need for improvements for which some fees have been collected but not spent.

The traffic projections assume that development of employment and retail centers would attract internal trips that would otherwise leave the project area, thus increasing external congestion; however, such attractants are a more significant consideration under buildout of the project, when roadways are fully loaded and employment and retail attractants actually exist. Such uses typically follow later in the buildout process, after “rooftops” have reached critical mass. Thus, it is possible that curtailment of development would cause project residents to have to leave the project area in their vehicles for jobs and retail opportunities that would otherwise be available on-site under a scenario without curtailment. However, because there would be less development, fewer total trips would be generated; therefore, curtailment is unlikely to significantly increase traffic congestion, based on the number of dwelling units expected before the long-term water supply and conveyance facilities are completed, and no new impacts would result from curtailment of development. No new mitigation is required.

Air Quality

Emissions are proportional to the amount of development occurring and trips generated during and after construction. Therefore, curtailing development would also temporarily curtail related emissions. As discussed above, retail and employment uses typically follow later in the buildout process, after “rooftops” have reached critical mass. Thus, it is possible that curtailing development would cause project residents to commute to out-of-area jobs and to those commercial areas that would be available on-site under a scenario without curtailment. Longer vehicle trips would result in greater emissions, contributing to air quality impacts. However, an attempt to project at what point development might stop, and therefore how many residents there might be and where they would choose to drive, would be too speculative to arrive at a meaningful conclusion. Any air pollution increases from such external effects, however, are not expected to be incrementally considerable or significant in and of themselves; this is especially given that, as explained in Section 3.15, “Air Quality,” of the 2006 DEIR/DEIS, air quality effects from the project are significant and unavoidable. Thus, curtailing development is unlikely to substantially increase the project’s already significant air emissions, and no new impacts would result from curtailment of development. No new mitigation is required.

Noise

Noise impacts are related to construction-related activities, project-generated traffic and on-site land uses, and aircraft. As explained in Section 3.16, “Noise,” of the 2006 DEIR/DEIS, increases in noise levels from project-generated traffic, on-site land uses, and aircraft are significant and unavoidable. Increases in noise levels are proportional to the amount of development occurring, and curtailment of development would temporarily reduce noise-related impacts. Thus, curtailing development is unlikely to substantially increase the project’s already significant noise impacts from the project, and no new impacts would result from curtailment of development. No new mitigation is required.

Impact Conclusion

Based on the analysis of the resources discussed above, impacts associated with curtailment of project development would be the same as those identified in Table ES-1 of the executive summary of the 2006 DEIR/DEIS. The temporary curtailment of development would not result in one or more significant environment effects in addition to those that would be caused by the project, which have already been analyzed in the 2006 DEIR/DEIS. **Direct** impacts related to population, housing, and employment; and environmental justice would be **less than significant**. **Direct** impacts related to drainage, hydrology, and water quality; public services; geology,

soils, and mineral resources; paleontological resources; cultural resources; parks and recreation; hazardous materials; and noise would be **potentially significant**. **Direct** impacts related to land use, utilities and service systems, biological resources, visual resources, traffic and transportation, and air quality would be **significant**. After implementation of mitigation measures already identified in the 2006 DEIR/DEIS, impacts on biological resources, visual resources, traffic and transportation, and air quality would remain significant and unavoidable, and the other impacts would be reduced to a less-than-significant level. **Indirect significant** impacts on utilities and service systems and biological resources would occur. *[Similar]*

Mitigation Measure: Implement the same mitigation measures called for in the 2006 DEIR/DEIS and in this Recirculated DEIR/Supplemental DEIS, as specifically set forth in Table ES-1.

Implementation of the same mitigation measures called for in the 2006 DEIR/DEIS would reduce potentially significant and significant impacts related to curtailment of development for the same reasons elaborated in each section of Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures” of the 2006 DEIR/DEIS.

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require the provision of new water supply or conveyance facilities.

Because no development would occur under the No Project Alternative, proposed development would not be curtailed; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

Impact 3.5-5: Increased Demand for Permanent Water Supplies. *Project implementation would increase demand on the existing water supply.*

Applies to: PP, HD, IM, NF.

The project would be served by SCWA Zone 40 through its conjunctive-use water supply system. SCWA has existing secured surface-water supplies, groundwater, and recycled water, as well as the right to GET-Remediated Water supplies pursuant to the Aerojet-County agreement, and is currently pursuing entitlements for appropriate water supplies (i.e., future planned water supplies).

Proposed Project’s Water Demand

In compliance with SB 610, a WSA has been prepared to determine whether the projected available water supplies would meet the project’s water demand, in addition to the existing and planned future uses. The SCWA Board of Directors adopted the Rio del Oro WSA in June 2006. For purposes of this analysis, it is assumed that the WSA also would reflect availability of water to meet demands associated with the High Density, Impact Minimization, and No Federal Action Alternatives, because the demands from those alternatives are similar to that of the Proposed Project Alternative. The following impact analysis summarizes the projected water supplies and demand.

The project’s buildout water demands were estimated by applying a water-demand factor to each proposed land use. The land uses and water demands under the Proposed Project Alternative were identified in the *Rio del Oro*

Plan Area Water Supply Master Plan (Wood Rodgers 2004, 2007a) and are summarized in Table 3.5-13 below. The land uses and water demands under the High Density, Impact Minimization, and No Federal Action Alternatives are summarized in Tables 3.5-14, 3.5-15, and 3.5-16 below.

Table 3.5-13			
Summary of Program Level Land Use and Water Demands—Proposed Project Alternative			
Land Use	Area (acres)	Unit Water-Demand Factor ¹ (af/ac/yr)	Water Demand (afy)
Single-Family	1,597	2.89	4,615
Multifamily—Low Density	237	3.7	877
Multifamily—High Density	86	4.12	354
Commercial	293	2.75	806
Industrial	282	2.71	764
Public	161.5	1.04	168
Public Recreation	170	3.46	588
Right-of-Way	471	0.21	99
Vacant	531	0	–
Total	3,828.5		8,271
System Losses (7.5%)			620
Total Demand			8,891
Notes:			
af/ac/yr = acre-feet per acre per year; afy = acre-feet per year			
¹ The unit water-demand factors provided in this table are consistent with the unit water-demand factors used in the <i>Zone 40 Water Supply Master Plan</i> and the <i>2000 Water Forum Agreement</i> .			
Sources: Wood Rodgers 2004, 2007a			

Table 3.5-14¹			
Summary of Program Level Land Use and Water Demands—High Density Alternative			
Land Use	Area (acres)	Unit Water-Demand Factor ¹ (af/ac/yr)	Water Demand (afy)
Single-Family	1,567	2.89	4,829
Multifamily—Low Density	249	3.7	921
Multifamily—High Density	104	4.12	428
Commercial	293	2.75	806
Industrial	282	2.71	764
Public	161.5	1.04	168
Public Recreation	170	3.46	588
Right-of-Way	471	0.21	99
Vacant	531	0	–
Total	3,828.5		8,603
System Losses (7.5%)			645
Total Demand			9,248
Notes:			
af/ac/yr = acre-feet per acre per year; afy = acre-feet per year			
¹ The unit water-demand factors provided in this table are consistent with the unit water-demand factors used in the <i>Zone 40 Water Supply Master Plan</i> and the <i>2000 Water Forum Agreement</i> .			
Sources: Wood Rodgers 2004, 2007a			

Land Use	Area (acres)	Unit Water-Demand Factor ¹ (af/ac/yr)	Water Demand (afy)
Single-Family	1,032.5	2.89	2,984
Multifamily—Low Density	241	3.7	892
Multifamily—High Density	173.5	4.12	642
Commercial	286	2.75	787
Industrial	261	2.71	707
Public	152	1.04	158
Public Recreation	167	3.46	578
Right-of-Way	497	0.21	104
Vacant	1,018.5	0	—
Total	3,828		6,852
System Losses (7.5%)			514
Total Demand			7,366

Notes:
af/ac/yr = acre-feet per acre per year; afy = acre-feet per year

¹ The unit water-demand factors provided in this table are consistent with the unit water demand factors used in the *Zone 40 Water Supply Master Plan* and the 2000 Water Forum Agreement.

Sources: Wood Rodgers 2004, 2007a

Land Use	Area (acres)	Unit Water Demand Factor ¹ (af/ac/yr)	Water Demand (afy)
Single-Family	1,477	2.89	4,269
Multifamily—Low Density	210	3.7	777
Multifamily—High Density	85	4.12	350
Commercial	238	2.75	655
Industrial	232	2.71	629
Public	152.5	1.04	159
Public Recreation	182	3.46	630
Right-of-Way	393	0.21	83
Vacant	859	0	—
Total	3,828		7,552
System Losses (7.5%)			566
Total Demand			8,118

Notes:
af/ac/yr = acre-feet per acre per year; afy = acre-feet per year

¹ The unit water-demand factors provided in this table are consistent with the unit water-demand factors used in the *Zone 40 Water Supply Master Plan* and the 2000 Water Forum Agreement.

Sources: Wood Rodgers 2004, 2007a

Since the 2006 DEIR/DEIS was prepared, a *Revised Draft Water Supply Master Plan* has been prepared for the project (Wood Rodgers 2007a), and this master plan has determined that the project's total estimated water demands are 8,800 afy. This is approximately 91 afy less than the 8,891 afy estimated by the draft WSMP prepared in 2004. This small change can be explained by the fact that some acreages of land uses have been modified slightly. For purposes of this Recirculated DEIR/Supplemental DEIS, the most conservative approach to

the analysis was taken. As a result, this Recirculated DEIR/Supplemental DEIS evaluates a greater maximum water demand (8,891 afy) than the estimated water demand (8,800 afy) identified in the 2007 revised draft WSMP.

The total projected water demands are 8,891 afy for the Proposed Project Alternative, 9,248 afy for the High Density Alternative, 7,366 afy for the Impact Minimization Alternative, and 8,118 afy for the No Federal Action Alternative. A portion (1,505 acres) of the project site lies within Zone 40’s 2030 Study Area. SCWA has planned for 1,500 afy of water supplies through the Zone 40 WSMP for these lands. The remaining demands under the Proposed Project Alternative (7,391 afy), the High Density Alternative (7,748 afy), the Impact Minimization Alternative (5,866 afy), and the No Federal Action Alternative (6,618 afy) would be met with GET-Remediated Water. More than 15,000 afy of GET-Remediated Water would be available to serve the project based on SCWA’s agreement with Aerojet. These water supplies would be available when the Vineyard Surface WTP, the FRWP, and the NSAPP are constructed and online.

Reasonable Likelihood of Long-Term Water Supplies to Meet Project Demands

SCWA Zone 40 Water Supplies

Table 3.5-17 lists available water supplies in Zone 40 during normal, single dry, and multiple dry years. This table reflects a conjunctive-use pattern in Zone 40 in which groundwater use averages 39,000 afy in normal years. In dry years, when the availability of surface water is limited, projected groundwater use increases to 70,000 afy to make up for the reduction in surface water. In all consecutive dry years, water-demand management programs would be implemented to a higher degree (e.g., greater conservation, reduced outdoor use) to reduce the potential impacts from increased extraction of groundwater.

Water Supply Sources	Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
			Year 1	Year 2	Year 3	Year 4
Zone 40 Surface Water	69,567	34,683	26,106	26,106	23,183	20,909
Zone 40 Groundwater	39,097	68,327	65,599	65,599	68,522	70,795
Zone 40 Recycled Water	4,400	4,400	4,400	4,400	4,400	4,400

Notes:
afy = acre-feet per year; SCWA = Sacramento County Water Agency
¹ This table presents only Zone 40 water supply sources as identified in the 2005 *Zone 41 Urban Water Management Plan*. It does not account for any available supplies of groundwater extraction and treatment (GET)–Remediated Water.
Source: SCWA 2005b

The project’s water demands under normal and dry-year conditions were compared to available water supplies from 2010 through 2030 to determine whether a reliable water supply is available to serve the project and existing water demands during normal and dry years (Tables 3.5-18 and 3.5-19).

As shown in Tables 3.5-18 and 3.5-19, SCWA has adequate water supplies available to meet projected water demands under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives, even in critically dry years. SCWA has existing secured surface-water supplies, groundwater, and recycled water, as well as the right to GET-Remediated Water supplies pursuant to the Aerojet-County agreement (discussed below), and is currently pursuing entitlements for appropriative water supplies (i.e., future planned water supplies). In wet and normal water years, SCWA would divert surface water from the American and Sacramento Rivers, consistent with the entitlement contracts described above. SCWA would meet dry-year demands by

**Table 3.5-18
Normal-Year Comparison of Water Supply and Demand (afy)**

Source	2010	2015	2020	2025	2030
Supply					
Zone 40 Surface Water ¹	13,060	44,143	48,772	68,700	69,567
Zone 40 Groundwater ¹	34,125	28,837	40,470	31,324	39,097
Zone 40 Recycled Water ¹	4,400	4,400	4,400	4,400	4,400
GET-Remediated Water ²	15,000	15,000	15,000	15,000	15,000
Total Supplies	66,585	92,380	109,642	119,424	128,064
Demand					
Zone 40 (Rio del Oro project not included)	50,085	75,880	92,142	102,924	111,564
Rio del Oro project	8,891	8,891	8,891	8,891	8,891
Total Demand	58,976	84,771	101,033	111,815	120,455
Difference (Supply minus Demand)	7,609	7,609	7,609	7,609	7,609
Notes: afy = acre-feet per year					
¹ These water supply sources for Zone 40 were identified in the 2005 Zone 41 Urban Water Management Plan.					
² Groundwater extraction and treatment (GET)–Remediated Water supply includes water for development for the Aerojet properties (including Rio del Oro and Westborough).					
Source: SCWA 2005b, City of Rancho Cordova 2006b					

**Table 3.5-19
Dry-Year Comparison of Water Supply and Demand (afy)**

Source	2010	2015	2020	2025	2030
Supply					
Zone 40 Surface Water ¹	243	26,411	29,441	38,606	34,683
Zone 40 Groundwater ¹	44,362	42,700	55,120	56,197	68,327
Zone 40 Recycled Water ¹	4,400	4,400	4,400	4,400	4,400
GET-Remediated Water ²	15,000	15,000	15,000	15,000	15,000
Total Supply	64,005	88,511	103,961	114,203	122,410
Demand					
Zone 40 (Rio del Oro project not included)	47,505	72,011	87,461	97,703	105,910
Rio del Oro project	8,891	8,891	8,891	8,891	8,891
Total Demand	56,396	80,902	96,352	106,594	114,801
Difference (Supply minus Demand)	7,609	7,609	7,609	7,609	7,609
Notes: afy = acre-feet per year					
¹ This water supply sources for Zone 40 were identified in the 2005 Zone 41 Urban Water Management Plan.					
² Groundwater extraction and treatment (GET)–Remediated Water supply includes water for development for the Aerojet properties (including Rio del Oro and Westborough).					
Source: SCWA 2005b, City of Rancho Cordova 2006b					

increasing groundwater pumping from the Central Basin as outlined in the Zone 40 WSMP. The maximum groundwater pumping levels would not exceed the amount identified in the Zone 40 WSMP (69,900 afy) and would be below the sustainable yield for the Central Basin identified in the WFA (273,000 afy). SCWA has sufficient wells and treatment facilities available to meet these pumping levels. The underlying groundwater basin would be replenished in wet years as a result of this reliance on surface water. In dry water years, SCWA's surface water could be reduced based on recommended dry-year cutback volumes outlined in the WFA. The dry-year cutback volumes are those volumes that purveyors have agreed not to divert from the American River during dry years. During dry years, SCWA would increase groundwater pumping so that it could continue to meet customers' water demand.

Circumstances that could affect the likelihood of long-term water supplies would include competition from other development in Zone 40, such as expansion of the City of Elk Grove's urban services area, and the ESA clearance for the CVP water facilities at the Freeport intake facility. Neither of these scenarios is anticipated to affect long-term water supplies available for Zone 40. (see "Circumstances Affecting the Likelihood of Long-Term Water Supplies.")

GET-Remediated Groundwater

Aerojet currently extracts and treats groundwater for contaminants at various GET facilities at or near its property in Rancho Cordova. The GET facilities are operated under one or more directives from the EPA, the Central Valley RWQCB, and DTSC, which requires extraction of contaminated groundwater, treatment of the groundwater, and appropriate discharge of treated groundwater, principally to the American River. The EIR for the Zone 40 WSMP, which was prepared by SCWA (2004a) and has been certified, discussed Aerojet's treatment systems and fully evaluated the potential hazards associated with and future uses of this groundwater after treatment.

GET- Remediated Water sufficient to meet the project's water demands would be provided pursuant to agreement with Aerojet. Aerojet's GET facilities currently extract, treat, and discharge to the American River approximately 15,000 afy of GET- Remediated Water, and these facilities are being expanded under government oversight over the next several years to extract, treat, and discharge more than 26,000 afy. Additionally, there are two other GET facilities (also under environmental agency oversight) that presently discharge to Morrison Creek, but can, through construction of new pipelines, discharge to the American River. One of the GET facilities discharging to Morrison Creek is operated by MDC/Boeing, which, along with Aerojet, is obligated to remediate groundwater migrating from portions of property formerly owned by MDC/Boeing and currently owned by Aerojet. Upon completion of all planned GET facilities, and if the water currently discharging to Morrison Creek is redirected to the American River through pipelines, more than 35,000 afy of treated groundwater would be discharged to the American River.

GET-Remediated Water is currently discharged to the American River and is available for diversion at the FRWP on the Sacramento River under agreement between Aerojet and SCWA authorizing that diversion. The agreement, which was entered in 2003, grants to SCWA the GET-Remediated Water discharged to the American River. In exchange for this water, among other matters, SCWA agreed to provide replacement water to GSWC and Cal-Am through a replacement water supply project and to provide water for development for the Aerojet properties (including Rio del Oro) in excess of the replacement water-supply obligations.

As discussed above, the RWSP DEIR was circulated for public review in October 2006. The RWSP DEIR evaluates actions necessary for SCWA to receive 35,000 afy of GET-Remediated Water discharged to the American River and provide 10,000 afy of the water directly or through exchange to the Folsom South Canal. The RWSP DEIR also evaluates the environmental impact of permanent pipelines and water diverted at the Folsom South Canal for replacement-water supply for GSWC and enhancement of Cosumnes River flows. Finally, the RWSP DEIR describes 15,500 afy of GET-remediated water as being available for diversion at the FRWP. The

comment period for the RWSP DEIR has closed, but no date has been scheduled for consideration of approval and certification of a FEIR.

The Aerojet-SCWA Agreement allowed either party to terminate the agreement if SCWA has not certified the FEIR and approved the RWSP by a specified date. The specified date has now passed. Neither party has yet acted to terminate the Aerojet-County Agreement and it currently remains in effect; however, SCWA has informed Aerojet that it will require changes to the Aerojet-County Agreement and that it does not anticipate implementation of the RWSP in its entirety as currently described in the RWSP DEIR.

Approval and implementation of the RWSP by SCWA as described in the RWSP DEIR is not required for GET-Remediated Water to be available to SCWA to meet the project's water demand in addition to SCWA's existing and other projected future demands. The GET-Remediated Water is already being discharged to the American River at quantities sufficient to meet the project's demand and could be made available to SCWA at the FRWP through implementation of the Aerojet-County Agreement, a modified agreement, or a new agreement.

Alternatives to Long-Term Water Supply

As described above, SCWA has existing secured surface-water supplies, groundwater, and recycled water, as well as the right to GET-Remediated Water supplies pursuant to the Aerojet-County agreement, and is currently pursuing entitlements for appropriative water supplies (i.e., future planned water supplies). Because currently available water supplies for the project area (i.e., GET-Remediated Water, other existing groundwater supplies, and the SMUD and Fazio CVP contracts) are reasonably likely, the identification and analysis of alternate sources of water and the impacts associated with those sources are not required under *Vineyard*. However, although it is not legally required, a discussion of alternative sources is included below.

GSWC Phase 1A Water Supplies

As discussed in Impact 3.5-1 above, GSWC has indicated that it would have an adequate water supply to serve Phase 1A. Existing GSWC water that exceeds current projected maximum-day system demand could be delivered to the project as initial water supply. GSWC has indicated that it would have a maximum water supply 968 afy. This water would be available until the SCWA facilities (Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online. Therefore, there is a reasonable likelihood that initial water supplies needed to serve Phase 1A would be available and that this water supply would serve the long-term demands of Phase 1A of the project. Other water supply sources would be required to serve the remaining Phase 1 development and subsequent phases of development.

GSWC Options A and B

As discussed in Impact 3.5-2 above, GSWC Options A and B could potentially meet the project's permanent long-term water demands, as these options are expected to result in capacity that exceeds the demands of GSWC's current service area.

Option A would use existing GSWC wells that have been decommissioned as a result of groundwater contamination. Wellhead treatment could be provided to remove contaminants from one or more wells that contain low concentrations of contaminants. Although these wells are potentially above the action levels, wellhead treatment could be provided either for currently shut-down wells or for future additional wells that exceed regulatory criteria. If these wells were brought back online, approximately 1,500 afy of water supply could be available, thereby providing GSWC's system excess capacity that could serve as an initial water supply for the project.

Option B would pipe groundwater treated at an Aerojet GET J facility (e.g., GET J facility) to the nearby Coloma/Pyrites WTP, where it would then be blended with treated groundwater and other potable surface water. This blended water would provide excess capacity that would then be diverted to GSWC's existing customers as

well as to the project. This option would also require an evaluation of the appropriateness of blending, including the ratio of GET to non-GET water. Up to approximately 6,300 afy could be available to serve as an initial water supply for the project.

Option B could potentially be used in combination with water supplies provided under Option A. The total water available from Options A and B (7,800 afy) would not support the entire project at buildout (8,891 afy). If water supplies from both Options A and B became available, these supplies could potentially be used in combination with water supplies provided by GSWC for Phase 1A (968 afy). The total combined water supply from these sources would be 8,768 afy, and these combined water supplies would still not support the entire project at buildout.

The total water available from Options A and B would not support the entire project at buildout. Both options would require separate agreements with GSWC and SCWA and would require DPH approval. DPH has approved wellhead treatment similar to that proposed under Option A at other locations in California, but has not yet approved such a facility in Sacramento. The permitting associated with use of GET J water under Option B are considered more substantial than Option A. Therefore, there is not reasonable certainty that these water supplies would be available to serve the long-term demands of the project.

GSWC Deep-Well Replacement Water

Under the GSWC deep-well replacement-water option, described in Impact 3.5-2 above, initial water could be supplied by drilling a new deep-well replacement (well #24) for wells in the westernmost portions of GSWC's service area (wells #3 and #4) that GSWC has taken out of service because of actual or anticipated contamination. Water pumped from this deep-well replacement would increase the water supplies available to GSWC by approximately 1,100 gpm. The additional water supply would serve the needs of the westernmost portions of the GSWC service area and would free capacity to serve other portions of the service area.

The deep-well replacement-water concept has been discussed with GSWC in the past; however, GSWC has not committed to providing water from these replacement wells to the project. Under this option, with agreement with GSWC, any delivery of an initial water supply under the deep-well replacement-water option would require an agreement with SCWA that must describe capital improvements required to deliver the water, the source of funding for any such improvements, the price of initial water, and a commitment of the initial supply. Other existing agreements that address water supply in this area may need to be amended. In addition, this option would also require extending GSWC's system to the project site and may require additional infrastructure within the system. This option would require DPH approval, and it must consider the current dimensions and migration of the contaminant plume of groundwater from the Aerojet property north of the project site and the potential that new wells could become contaminated in the future. No additional groundwater extraction would be likely to occur in this area until after GET operations upgradient from the location are online.

Because this option would require separate agreements with GSWC and SCWA and would require DPH approval, water supplies identified under the GSWC deep-well replacement-water option are not considered a reliable source of potable water. Therefore, there is not reasonable certainty that these water supplies would be available to serve the long-term demands of the proposed project.

Natomas Central Mutual Water Company

Natomas Central Mutual Water Company (Natomas Mutual) primarily provides irrigation water to its shareholders for agriculture purposes. Natomas Mutual has historically provided water to more than 33,200 acres of land north and west of the city limits of Sacramento and its service area is bordered on the west by the Sacramento River and stretches into Sutter County to the north. Natomas Mutual has water rights for 120,000 afy of water from Reclamation and diverts this water from the Sacramento River.

In March 2004, Natomas Mutual authorized its staff and consultants to finalize an operating agreement with GSWC to provide water and wastewater services to municipal and industrial users in the Natomas Basin via a separate conveyance system. As land is being converted from agricultural (predominantly rice) to residential land uses in Natomas Mutual's service area, the total water demands in the service area has decreased (rice farming is a water intensive use). This has resulted in a potential surplus in Natomas Mutual's available water supplies.

Natomas Mutual has indicated that through the partnership with GSWC, they are pursuing opportunities to market (e.g., sell, transfer) their surplus water supply; however, information regarding the specific amount of available water supplies is not available. The sale or transfer of water from Natomas Mutual to purveyors within Rancho Cordova would require approval by the State Water Resources Control Board, Division of Water Rights and the preparation of necessary environmental documentation. Further, additional conveyance and treatment facilities would likely be required to deliver water from Natomas Mutual's service area to the City. Therefore, there is not reasonable certainty that these water supplies would be available to serve the long-term demands of the proposed project.

City of Folsom

GSWC has entered into an agreement with the City of Folsom to transfer 5,000 afy to the City of Folsom pursuant to its agreement for replacement water supplies with Aerojet. Within the agreement there is the option for the City of Folsom to transfer the 5,000 afy to the SCWA for its use within its conjunctive use water supply system. However, the City does not anticipate the transfer of these supplies to SCWA would be likely. Therefore, there is not reasonable certainty that these water supplies would be available to serve the long-term demands of the proposed project.

Sacramento Suburban Water District

GSWC currently has an intertie with Sacramento Suburban Water District (SSWD)'s water distribution system. The potential may exist for the acquisition of additional supplies to meet City demands; however, the City would need to coordinate with GSWC and SSWD to determine the feasibility of those supplies. If supplies are available, no substantial new infrastructure would need to be constructed because an intertie connection between these two agencies is already available. Additional distribution and treatment facilities may be required to convey the water from GSWC existing distribution to deliver these supplies. Because it is unknown if water supplies would be available from SSWD and because additional distribution and treatment facilities may be required, there is not reasonable certainty that these water supplies would be available to serve the long-term demands of the proposed project.

Impact Conclusion

According to the Zone 40 WSMP, Zone 41 UWMP, and the City's WSA, reliable, long-term water supplies would be available to serve Zone 40 through 2030. SCWA has existing secured surface-water supplies, groundwater, and recycled water, as well as the right to GET-Remediated Water supplies pursuant to the Aerojet-County agreement, and is currently pursuing entitlements for appropriative water supplies (i.e., future planned water supplies. Because SCWA is in the process of securing the appropriative water, transfer water and POU water supplies, SCWA does not currently control enough water to support build-out of all of Zone 40. SCWA does, however, currently control sufficient water to reliably serve the entire Rio del Oro project area. Although the Rio del Oro applicants may have to compete, on a first-come, first-served basis for existing firm supplies such as the Fazio and SMUD CVP contract supplies and groundwater pumped at levels no greater than the negotiated sustainable yield for the Central Basin as determined under the Water Forum Agreement, such supplies are considered reliable and, moreover, are only necessary to serve a small portion of the demand for the project (1,500 afy). The Rio del Oro project will receive the greater part of its water (7,391 afy) from the more than 15,000 afy of GET Remediated Water available to serve the project based on SCWA's agreement with Aerojet. Moreover, the unique legal limitations on SCWA's use of GET water allow the "Aerojet lands" to make a claim

on that water that other portions of the Zone 40 service area cannot make. SCWA's water supplies for the Rio del Oro project are therefore considered reliable, and there is reasonable certainty that these water supplies would be available for the project area. Therefore, there is reasonable certainty that permanent water supplies needed to serve the project at buildout would be available. This impact is considered **direct** and **less than significant**. **No indirect** impacts would occur. *[Similar]*

Although there is a high degree of certainty that SCWA would be able to supply the project in the long term, there is a small amount of uncertainty about whether the infrastructure necessary to deliver the long-term water supplies needed to serve the project would be successfully implemented (see Impact 3.5-6 below). It is assumed that once these facilities are developed, the water supplies would continue to flow to SCWA without interruption, consistent with its existing water supply contracts, barring a major shift in climate or policy, or unless the California water law principles described earlier are applied in a significantly more restrictive manner. Therefore, SCWA would be able to supply the project in the long term.

Mitigation Measure: No mitigation measures are required.

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require the provision of new long-term, permanent water supplies or conveyance facilities.

Because no development would occur under the No Project Alternative, permanent water supplies and associated infrastructure would not be required; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

Impact 3.5-6: Need for Water Conveyance Facilities to Deliver Long-Term Water Supplies. *Project implementation would require construction of on-site water conveyance facilities to deliver water from SCWA's off-site conveyance facilities to the project site. The permanent long-term water supplies cannot be delivered to the project site until off-site water conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.*

Applies to: PP, HD, IM.

A preliminary on-site water system has been designed as a looping system following the major street alignments (see revised 2006 DEIR/DEIS Exhibit 2-9a, attached to this Recirculated DEIR/Supplemental DEIS). The transmission system would incorporate mainline pipe sizes from 16 inches to 24 inches in diameter. The on-site distribution system would consist of 8- to 12-inch diameter pipes, with the 12-inch lines looping near sites that require higher fire flow requirements, such as commercial, industrial, and school sites. The on-site water system under the High Density and Impact Minimization Alternatives would be similar to the system under the Proposed Project Alternative. The internal water transmission system would be developed in phases, and the on-site distribution system would be adequately sized to accommodate project-related water demands and fire-flow demands.

The project would be served by SCWA Zone 40 through its conjunctive-use water supply system. SCWA has entitlements to surface water, is a groundwater appropriator, and has entered into an agreement with Aerojet to beneficially reuse GET-Remediated Groundwater (see Impact 3.5-4 above). The GET-Remediated Water is already being discharged to the American River at quantities sufficient to meet this increased demand from Rio del Oro and could be made available to SCWA at FRWP through implementation of the Aerojet-County

Agreement, a modified agreement, or a new agreement. The permanent long-term water supply cannot be delivered to the project site until water conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online. Water would be diverted from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment and delivery to SCWA Zone 40. After the water is treated at the Vineyard Surface WTP, it would be delivered to the project site through the NSAPP.

The NSAPP would be required to convey water treated at the Vineyard Surface WTP to the project site. The NSAPP is still in the planning and design phase. The preferred alignment would begin at the Vineyard Surface WTP and continue east along Florin Road. At the intersection of Florin Road and Eagles Nest Road, the pipeline would head north along Eagles Nest Road, which transitions into Zinfandel Road at the intersection of Douglas Road. The pipeline would continue north along Zinfandel Road to a storage tank and pump station just north of Douglas Road and adjacent to the east side of the Folsom South Canal. Water would be conveyed from the pump station to Douglas Road, where the pipeline would turn east and follow Douglas Road to Sunrise Boulevard, where it would tie into the existing Zone 40 system near the southwest corner of the project site. This pipeline was identified in the 2005 Zone 40 WSMP EIR, and the environmental impacts of the construction of the pipeline were analyzed at a programmatic level in the Zone 40 WSMP. The NSAPP has not undergone CEQA review, but it is expected that an EIR for the project will be prepared in 2008. SCWA anticipates that this pipeline would not be in service until 2014. SCWA is securing necessary funding for the NSAPP. The project applicant(s) may enter into an advanced funding agreement with SCWA Zone 40 to expedite construction of the NSAPP. Impacts resulting from construction of the NSAPP could include, but are not limited to, short-term impacts on air quality associated with construction, potential short-term construction impacts on special-status plants and wildlife or sensitive habitats; potential disturbance of known or unknown cultural or paleontological resources, short-term increases in erosion and stormwater runoff, and short-term increases in construction noise levels.

Because the water-supply and conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) must be constructed to serve the project at complete buildout along with other proposed development in the region, development of the project would contribute to the environmental impacts of the Zone 40 WSMP, as identified in the EIR for the Zone 40 WSMP, and the environmental impacts of the FRWP, as identified in the FRWP EIR/EIS. However, these impacts would occur even without development of the project because the water supplies and conveyance facilities identified in the Zone 40 WSMP are also required to serve regional development and are needed whether or not the project is implemented.

Because there is a relationship between the project and the need for water supplies and conveyance facilities identified in the Zone 40 WSMP, approval of the project contributes indirectly to the related impacts. The environmental impacts associated with the construction of facilities identified in the Zone 40 EIR and the FRWP EIR/EIS are discussed below.

Zone 40 Water Supply Master Plan EIR

SCWA prepared a DEIR to analyze the impacts of implementing the Zone 40 WSMP. The DEIR was prepared and circulated for public review in November 2003 (SCH #95082041), and the FEIR was certified and the master plan was approved in 2005. As part of the Zone 40 WSMP, impacts from construction of the Vineyard Surface WTP and the NSAPP, which would serve the Rio del Oro project, were analyzed at the programmatic level. Because these facilities would need to be constructed to serve the project, the environmental impacts of these facilities are associated with development of the project. However, these impacts would also occur without development of the project because these facilities are required to serve regional development and would be needed whether or not the project is developed.

Because there is a relationship between the project and the need for these water facilities, approval of the project contributes indirectly to the related impacts. As described in the Zone 40 EIR, construction of these water facilities would result in several environmental impacts, most of which would be reduced to a less-than-

significant level through implementation of mitigation by SCWA. Impacts that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable), or for which no feasible mitigation is available to reduce impacts to a less-than-significant level, were identified as follows:

- ▶ direct visual impacts associated with operation of new facilities;
- ▶ potential short-term impacts on air quality associated with construction of new facilities (because it was unknown whether mitigation measures would be adequate to reduce impacts);
- ▶ short-term noise impacts associated with construction of new facilities;
- ▶ potential long-term stationary-source noise impacts from operation of new facilities;
- ▶ potential short-term construction impacts and long-term operational impacts on special-status plants and wildlife, if any species are identified in the locations where specific facilities are constructed;
- ▶ potential short-term construction impacts and long-term operational impacts on sensitive habitats, if any are identified in the locations where specific facilities are constructed; and
- ▶ potential loss of habitat from development of facilities that would otherwise be included in the proposed *South Sacramento County Habitat Conservation Plan* (SSCHCP), if facilities are developed outside the 2030 Study Area for the Zone 40 WSMP.

Freeport Regional Water Project EIR/EIS

The FRWP involves construction of intake facilities and pipelines to deliver water from the intake facility to Zone 40's Vineyard Surface WTP. A DEIR/DEIS was prepared and circulated for public review in July 2003 (SCH #2002032132), and the FEIR was certified in April 2004. Subsequently, FRWA completed ESA compliance in fall 2004, leading to Reclamation's issuance of the record of decision in January 2005. Minor adjustments to the project were made after the FEIR was certified, and a supplemental IS/MND was prepared and circulated for public review in February 2006. The supplemental IS/MND was adopted in March 2006. The project is currently under construction and estimated to be operation in late 2009 or early 2010.

Because these facilities would need to be constructed to serve the project, the environmental impacts of these facilities are associated with development of the project. However, these impacts would also occur without development of the project because the FRWP is required to serve regional development and would be needed whether or not the project is developed.

Because there is a relationship between the Rio del Oro project and the need for these water facilities, approval of the project contributes indirectly to the related impacts. As described in the FRWP EIR/EIS, construction of these water facilities would result in several environmental impacts, most of which would be reduced to a less-than-significant level through implementation of mitigation by SCWA and EBMUD. Impacts that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable), or for which no feasible mitigation is available to reduce impacts to a less-than-significant level, were identified as follows:

- ▶ loss of whitewater boating on the upper Mokelumne River's Electra Run,
- ▶ loss of whitewater boating on the upper Mokelumne River between Middle Bar Bridge and the State Route 49 Bridge,
- ▶ short-term increases in construction noise levels during daytime hours,

- ▶ exposure of noise-sensitive land uses to general construction noise at night,
- ▶ increase in noise levels from facility operation, and
- ▶ changes in visual resources from inundation of the area upstream of the existing Pardee Reservoir (upper Mokelumne River).

Impact Conclusion

Because the infrastructure required for water conveyance facilities necessary to serve the Proposed Project, High Density, and Impact Minimization Alternatives has not been constructed, nor have final design plans and specifications been submitted, this impact is considered **direct** and **potentially significant**. In addition, the project would contribute to **indirect** and **direct significant and unavoidable** impacts associated with the future construction of water supplies and conveyance facilities identified in the Zone 40 WSMP (i.e., Vineyard Surface WTP, the FRWP, and the NSAPP) that would be needed to serve the project and other regional development.

[Similar]

Mitigation Measure: Implement Mitigation Measure 3.5-3.

Implementation of Mitigation Measure 3.5-3 would reduce direct, potentially significant impacts under the Proposed Project, High Density, and Impact Minimization Alternatives related to on-site and off-site water conveyance facilities to a **less-than-significant** level, because water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be in place before recordation of any final small-lot subdivision map, or before City approval of any similar project-specific, discretionary approval or entitlement required for nonresidential uses. If on-site or off-site water conveyance facilities are delayed or not constructed, implementation of Mitigation Measure 3.5-3 would cause project development to be curtailed because existing water supplies may not be available to meet the demands of the project. Impacts associated with permanent curtailment of development are discussed in Impact 3.5-7. Impacts associated with temporary curtailment of development are discussed in Impact 3.5-4 above.

Regarding expansion of Zone 40 water supply facilities and infrastructure, implementation of mitigation measures to reduce impacts is the responsibility of Zone 40. Such measures would be implemented in accordance with the certified Zone 40 EIR prepared by SCWA. Impacts on seven issue areas would remain **significant and unavoidable** after implementation of mitigation.

Similarly, implementation of mitigation measures to reduce impacts related to the expansion of the FRWP water supply facilities and infrastructure is the responsibility of SCWA and EBMUD. Such measures would be implemented in accordance with the certified FRWP EIR/EIS prepared by FRWA. Impacts on six issue areas would remain **significant and unavoidable** after implementation of mitigation.

Applies to: NF.

Because the project applicant(s) would not be obtaining a permit from USACE under Section 404 of the Clean Water Act, they would not be able to install water-supply infrastructure in the southern portion of the project site that is also necessary to serve proposed areas of other urban development in Rancho Cordova. The project proposes a 24-inch water-supply pipeline that would be installed along Americanos Boulevard and pass through the Security Park (not part of the proposed Rio del Oro project); this pipeline is necessary to provide connectivity with Cal-Am's storage and pumping facility at the corner of Douglas Road. Furthermore, infrastructure planning for future water supply requires that a water-supply pipeline be installed in a north-south direction through the Rio del Oro project site because in the future, water for the *Sunrise Douglas Community Plan*, *SunCreek Specific Plan*, *Rio del Oro Specific Plan*, *Easton Specific Plan*, and *Westborough Specific Plan* areas would be provided from the FWTP. Therefore, water-supply pipelines need to be installed along Jaeger Road south of Douglas Road,

along Rancho Cordova Parkway (the extension of Jaeger Road) through the Rio del Oro project site, and continuing north across White Rock Road to provide future water service for planned area development.

Under the No Federal Action Alternative, installation of water-supply pipelines on the project site would differ from those proposed for installation under the Proposed Project, High Density, and Impact Minimization Alternatives. The southern portion of the water supply pipeline that would otherwise be installed in a north-south direction through the Rio del Oro project site would be eliminated, potentially affecting the capacity of off-site infrastructure. Water conveyance facilities for the *Sunrise Douglas Community Plan*, *SunCreek Specific Plan*, *Easton Specific Plan*, and *Westborough Specific Plan* areas would be provided on the periphery of the project site through Sunrise Boulevard to the corner of Douglas Road. Therefore, water conveyance facilities planned for and approved in the Zone 40 WSMP for these roads would likely not have sufficient capacity to serve these developments and could require upgrades to provide an adequate level of service. Upgrades to these facilities could be inconsistent with SCWA's WSMP; therefore, impacts associated with the No Federal Action Alternative would be greater than those of the other project alternatives.

It is possible that water-supply pipelines could still be installed along what would have been the southern ends of Rancho Cordova Parkway and Americanos Boulevard, following the same alignment shown in the 2006 DEIR/DEIS (see revised Exhibits 2-9a through 2-9c attached to this Recirculated DEIR/Supplemental DEIS). Other potential alignments for water-supply pipelines could be designed to head west from the southern portion of the project site to Sunrise Boulevard and/or head east to Douglas Road. This alignment would connect to existing infrastructure on Sunrise Boulevard and/or Douglas Road. No plans showing this proposed water-supply infrastructure have been developed or analyzed.

Installation of water-supply pipelines through the designated Natural Resources areas would be required, using horizontal directional drilling techniques to avoid features considered jurisdictional by USACE in the southern portion of the project site. Horizontal directional drilling techniques require large construction areas to accommodate pipes and need additional construction equipment for tunneling or boring. Operation and maintenance of water conveyance facilities through the designated Natural Resources areas would be substantially more difficult and expensive because of a lack of access to the pipeline. Therefore, impacts associated with the No Federal Action Alternative would be greater than those of the other project alternatives.

The project would be served by SCWA Zone 40 through its conjunctive-use water supply system. SCWA has entitlements to surface water, is a groundwater appropriator, and has entered into an agreement with Aerojet to beneficially reuse GET-Remediated Groundwater (see Impact 3.5-4 above). The permanent long-term water supply cannot be delivered to the project site until water conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online. Water would be diverted from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment and delivery to SCWA Zone 40. After the water is treated at the Vineyard Surface WTP, it would be delivered to the project site through the NSAPP.

The NSAPP would be required to convey water treated at the Vineyard Surface WTP to the project site. The NSAPP is still in the planning and design phase. The preferred alignment would begin at the Vineyard Surface WTP and continue east along Florin Road. At the intersection of Florin Road and Eagles Nest Road, the pipeline would head north along Eagles Nest Road, which transitions into Zinfandel Road at the intersection of Douglas Road. The pipeline would continue north along Zinfandel Road to a storage tank and pump station just north of Douglas Road and adjacent to the east side of the Folsom South Canal. Water would be conveyed from the pump station to Douglas Road, where the pipeline would turn east and follow Douglas Road to Sunrise Boulevard, where it would tie into the existing Zone 40 system near the southwest corner of the project site. This pipeline was identified in the 2005 Zone 40 WSMP EIR, and the environmental impacts of the construction of the pipeline were analyzed at a programmatic level in the Zone 40 WSMP. The NSAPP has not undergone CEQA review; however, SCWA expects that an EIR for the NSAPP will be prepared in 2008. The date when this pipeline would be in service is currently unknown. SCWA is securing necessary funding for the NSAPP. The project applicant(s)

may enter into an advance-funding agreement with SCWA Zone 40 to expedite construction of the NSAPP. Impacts resulting from construction of the NSAPP could include, but are not limited to, short-term impacts on air quality associated with construction, potential short-term construction impacts on special-status plants and wildlife or sensitive habitats; potential disturbance of known or unknown cultural or paleontological resources, short-term increases in erosion and stormwater runoff, and short-term increases in construction noise levels.

Because the water supplies and conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) will need to be constructed to serve the project at complete buildout along with other proposed development in the region, development of the Rio del Oro project would contribute to the environmental impacts of the Zone 40 WSMP, as identified in the EIR for the Zone 40 WSMP, and the environmental impacts of the FRWP, as identified in the FRWP EIR/EIS. However, these impacts would occur even without development of the project because the water-supply and conveyance facilities identified in the Zone 40 WSMP and the FRWP are also required to serve regional development and are needed whether or not the project is implemented.

Because there is a relationship between the project and the need for water supplies and conveyance facilities identified in the Zone 40 WSMP and the FRWP, approval of the No Federal Action Alternative contributes indirectly to the related impacts. As described in the EIR for the Zone 40 WSMP and the FRWP EIR/EIS, construction of these water facilities would result in several environmental impacts, most of which would be reduced to a less-than-significant level through implementation of mitigation. However, seven impacts were identified in the EIR for the Zone 40 WSMP and six impacts were identified in the FRWP EIR/EIS that would remain significant after implementation of mitigation.

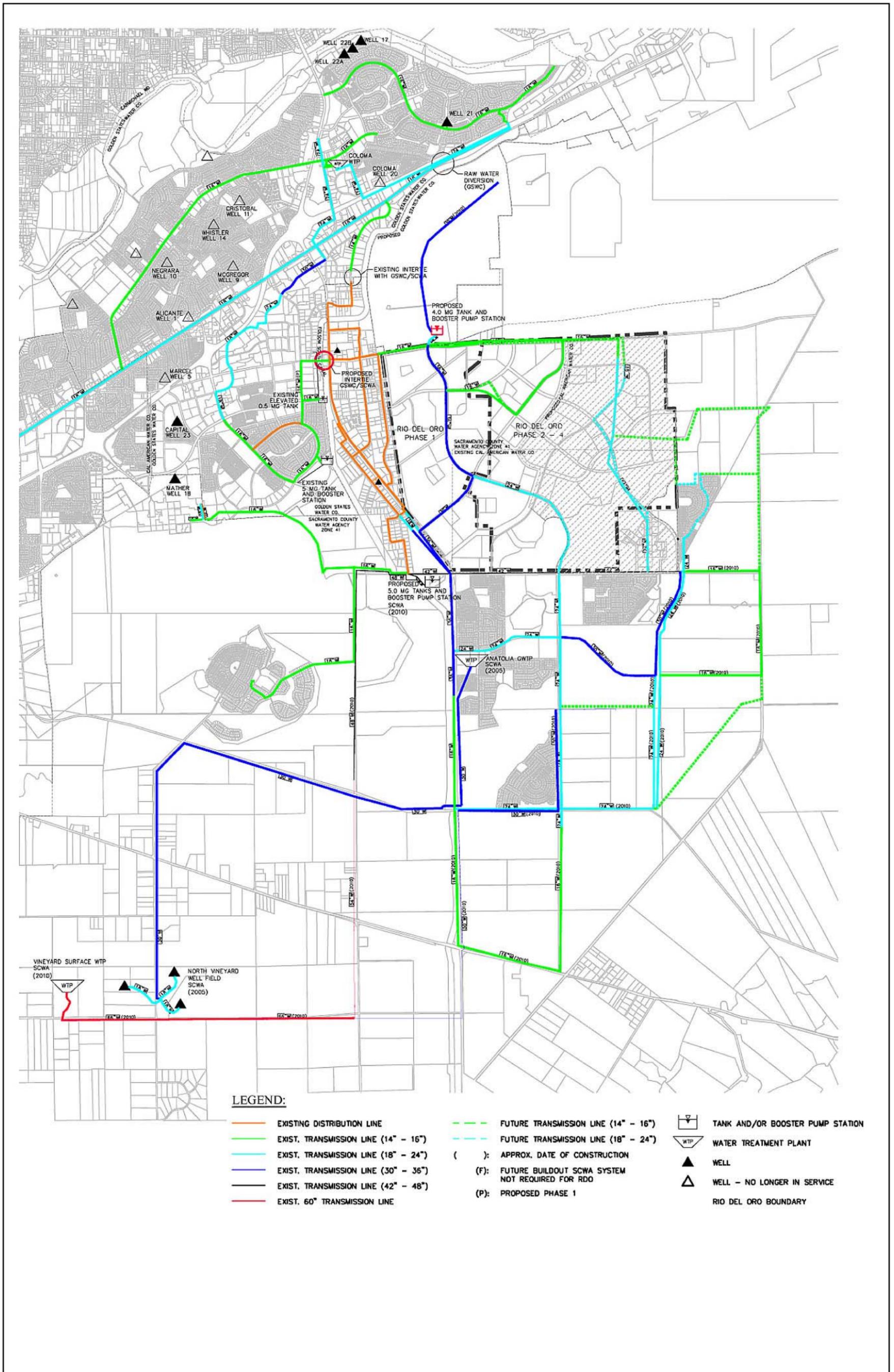
Because the infrastructure required for water conveyance facilities necessary to serve the No Federal Action Alternative has not been constructed, nor have final design plans and specifications been submitted, this impact is considered **direct** and **potentially significant**. In addition, the No Federal Action Alternative would contribute to **indirect** and **direct significant and unavoidable** impacts associated with the future construction of water supplies and conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) that would be needed to serve the project and other regional development. [*Greater*]

Mitigation Measure: Implement Mitigation Measure 3.5-3.

Implementation of Mitigation Measure 3.5-3 would reduce direct potentially significant impacts under the No Federal Action Alternative related to off-site water conveyance facilities because the construction and financing of water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be reasonably foreseeable before recordation of any final small-lot subdivision map, or before City approval of any similar project-specific, discretionary approval or entitlement required for nonresidential uses. However, impacts would not be reduced to a less-than-significant level.

Implementation of Mitigation Measure 3.5-3 under the No Federal Action Alternative would result in indirect off-site impacts related to water supply to surrounding development in Rancho Cordova, as follows:

- ▶ Construction of new off-site alternative alignments of water conveyance facilities would be necessary to serve surrounding development. These alternative alignments would require separate CEQA review; therefore, the full extent of impacts cannot be determined. However, it is assumed that implementation of alternative pipeline alignments would result in significant impacts on biological resources, as well as significant construction-related impacts (i.e., construction-related traffic, air-quality emissions, water quality, and noise impacts).
- ▶ If new water conveyance facilities with alternative alignments could not be constructed off-site, temporary or permanent curtailment of planned development in the surrounding area could result from a lack of necessary water conveyance facilities. Curtailing planned off-site development could result in its own set of potentially

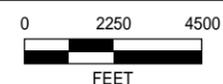


Source: Wood Rodgers 2007

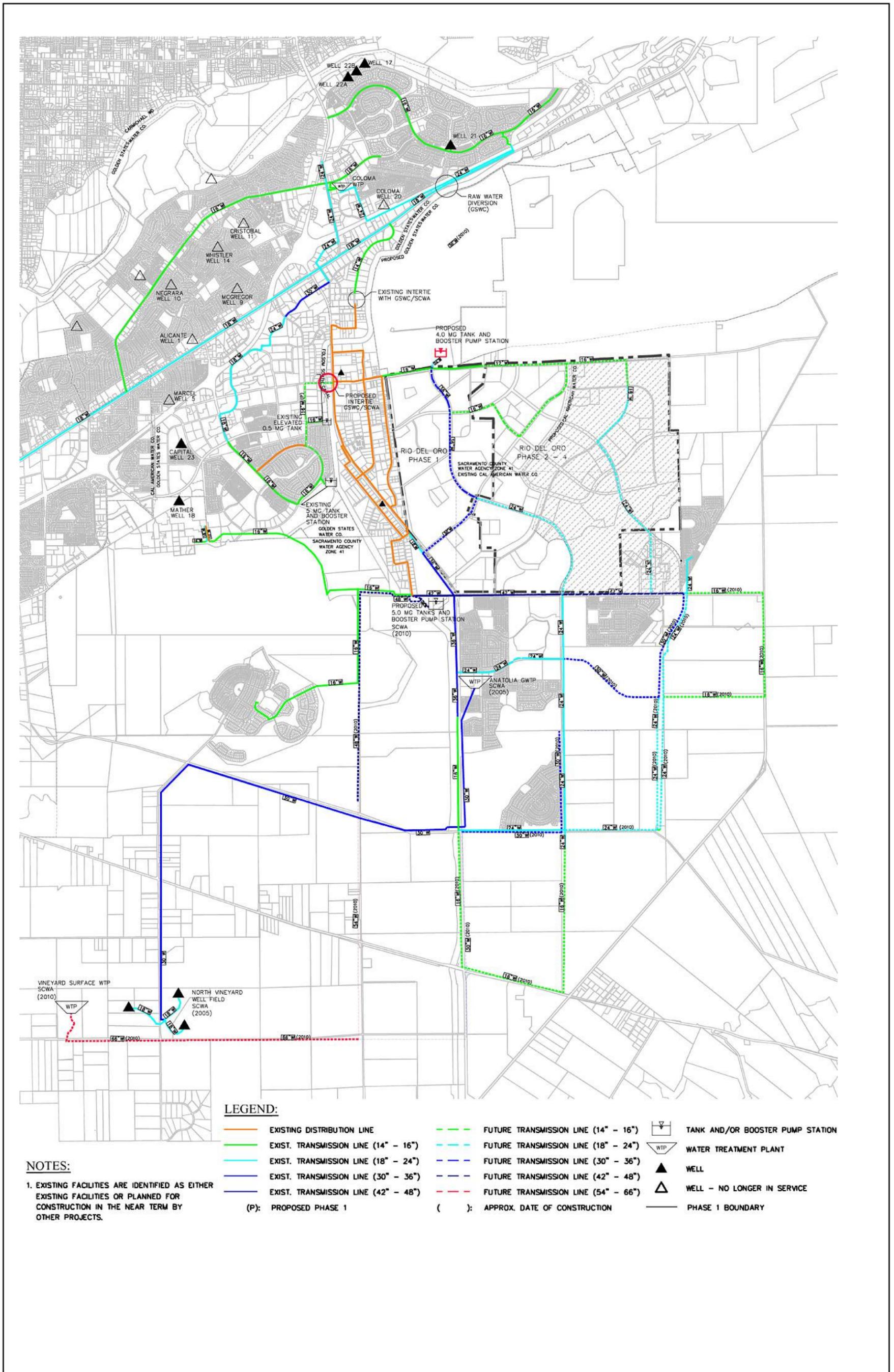
Off-Site Water Supply Facilities, Full Project Build-out

EXHIBIT 2-9b

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
City of Rancho Cordova and USACE
P:ST089.01 01/08



EDAW

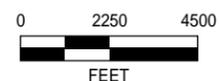


Source: Wood Rodgers 2007

Off-Site Water Supply Facilities, Phase 1

EXHIBIT 2-9c

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
 City of Rancho Cordova and USACE
 P:ST089.01 01/08



significant impacts, including a lack of funding that might be necessary to implement infrastructure (e.g., roads, sewer, and water) required on a regional or local level.

Identification of alternative water supply pipeline alignments would fall under the jurisdiction of the County and SWCA; therefore, neither the City nor the project applicant(s) could guarantee approval of these alternative pipeline alignments. Additionally, it is possible that these alternative alignments would be inconsistent with SWCA's WSMP and would be subject to separate CEQA compliance. For these reasons, this impact would remain **significant and unavoidable**. If the County, SWCA, and other potentially affected agencies cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually could be reduced to a less-than-significant level in the long term, depending on the outcome of the separate CEQA evaluation (if needed).

Regarding expansion of Zone 40 water supply facilities and infrastructure, implementation of mitigation measures to reduce impacts is the responsibility of Zone 40. Such measures would be implemented in accordance with the certified Zone 40 EIR prepared by SCWA. Impacts on seven issue areas would remain **significant and unavoidable** after implementation of mitigation.

Similarly, implementation of mitigation measures to reduce impacts related to the expansion of the FRWP's water-supply facilities and infrastructure is the responsibility of SCWA. Such measures would be implemented in accordance with the certified FRWP EIR/EIS prepared by SCWA. Impacts on six issue areas would remain **significant and unavoidable** after implementation of mitigation.

If on-site or off-site water conveyance facilities are delayed or not constructed, implementation of Mitigation Measure 3.5-3 would cause project development to be curtailed. Impacts associated with the curtailment of development are discussed in Impacts 3.5-4 and 3.5-7.

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require the provision of new utilities or service systems.

Because no development would occur under the No Project Alternative, permanent water supplies and associated infrastructure would not be required; thus, **no direct or indirect** impacts would occur. [*Lesser*]

Mitigation Measure: No mitigation measures are required.

Impact 3.5-7: Permanent Curtailment of Project Development. *Water supplies would be available to meet the project's long-term water demands once the long-term water supply conveyance facilities identified in the Zone 40 WSMP (i.e., Vineyard Surface WTP, FRWP, and NSAPP) have been constructed and are online. While there is a reasonable likelihood that SCWA has water to supply the project in the long term, there is uncertainty regarding whether the infrastructure necessary to deliver the long-term water supplies needed to serve the project would successfully be implemented, and a permanent curtailment in project development could occur.*

Applies to: PP, HD, IM, NF.

According to the Zone 40 WSMP, the Zone 41 UWMP, and the City's water-supply evaluation, water supplies would be available to meet the project's water demands at build-out (see Impact 3.5-5). However, permanent long-term water supply cannot be delivered to project until the long-term water supply conveyance facilities identified in the Zone 40 WSMP (i.e., Vineyard Surface WTP, FRWP, and NSAPP) have been constructed and

are online. If the long-term conveyance facilities (i.e., Vineyard Surface WTP, FRWP, and NSAPP) are delayed or not constructed, existing water supplies may not be available to meet the demands of the project. Under such a scenario, the Rio Del Oro project may not build out.

Implementation of Mitigation Measures 3.5-2 and 3.5-3 would require the City to make a factual showing that demonstrates the availability of a water supply from a public water system and adequate water conveyance facilities for the amount of development that would be authorized by the approval or entitlement at issue. If the long-term conveyance facilities (i.e., Vineyard Surface WTP, FRWP, and NSAPP) are delayed or not constructed, implementation of these mitigation measures would cause project development to be permanently curtailed. Although there is a very low likelihood that curtailment of the long-term water supply would occur due to needed infrastructure not being constructed, because uncertainties remain, the following analysis discusses the potential environmental effects of a permanent curtailment of development. Such curtailment could also result from climatic or other environmental conditions that are unforeseen and cannot be predicted or from unexpected regulatory or legal developments. Generally the potential impacts of a permanent curtailment can be grouped into three categories:

- ▶ **Infrastructure.** Impacts associated with the construction of new infrastructure to meet increases in demand resulting from new development.
- ▶ **Pattern of Development.** Impacts associated with the pattern of development such as land use patterns that are discontinuous, and the effects such patterns may have on land use compatibility and other resources.
- ▶ **Economic Considerations.** CEQA documents typically do not include an analysis of economic impacts of a project, unless the economic impact would bring about physical changes to the environment (CEQA Guidelines Section 15131). However, consistent with CEQA’s informational purpose, a brief discussion of such effects is provided below.

Infrastructure

New on-site infrastructure—water-supply infrastructure, wastewater conveyance facilities, and electrical, natural gas, and communications transmission lines—would be constructed only as necessary to meet the demands of each phase, or only as necessary to serve those areas with Zone 40 for which adequate long-term supplies are available. Specific impacts related to these utilities and service systems are discussed below. The following City entitlements are required to ensure, in part, that infrastructure is developed before any given phase of the project is developed.

- ▶ **Public Facilities Financing Plan.** This plan would be prepared and included as part of the *Rio del Oro Specific Plan* and would be adopted by the City Council on approval of the specific plan. The financing plan would define the specific mechanisms required to fund capital costs of all infrastructure necessary as a result of specific plan buildout. The plan would define funding for the maintenance of new infrastructure and public services needed by the future residents and businesses located within the project site.
- ▶ **Public Facilities Infrastructure/Phasing Plan.** This plan would be adopted by the City Council on approval of the specific plan. The plan would provide specific details about the phasing, sizing, alignment and location, cost estimates, and construction timing requirements for each phase of the project site.
- ▶ **Development Agreement.** The project applicant(s) and City intend to enter into a Development Agreement at the time the specific plan is adopted. Although the agreement is not yet drafted, the document in its final form will likely set forth many, if not all, of the applicants’ obligations to the City and other public agencies with regard to the project, including but not limited to construction, maintenance, and financial responsibilities. The agreement would also set forth the City’s other project obligations, including, but not limited to, processing of subsequent entitlement applications, formation of financing mechanisms (including Mello-Roos districts), and the vesting of development entitlements. In accordance with applicable provisions of the

Government Code, both the City Planning Commission and City Council would hold public hearings on the proposed Development Agreement before the City Council takes any action.

In addition, to move forward with a specific phase, the project applicant(s) would submit one or more tentative subdivision maps, with accompanying improvement plans, for each phase. At that time, the City would require the applicant(s) to comply with the performance standards described in the *Rio del Oro Specific Plan* and mitigation measures set forth in the EIR/EIS and incorporated into the specific plan for each tentative subdivision map/improvement plan, as conditions of approval and/or as a condition of the Development Agreement.

Although a permanent decrease in available water would cause development to be curtailed, the City would not approve tentative maps or issue building permits for development phases without an available infrastructure in place to serve that phase. As a result, any existing project development constructed or under construction at the time of the curtailment would have adequate water-supply and other infrastructure and service; therefore, infrastructure-related impacts of long-term curtailment of development would be **less than significant**. No mitigation measures are required.

Because the capacity of the regional infrastructure and the level of proposed development at some future time are unknown, the potential impacts on regional infrastructure are speculative. However, implementation of the requirements under Mitigation Measures 3.5-2 and 3.5-3 through City General Plan Actions ISF.2.4.1 and ISF.2.4.2 ensures approval of tentative and final subdivision maps for projects within the City and the Zone 40 service area could only be approved based on proof of adequate water supplies and infrastructure to meet the demands created by new development. In addition to the City of Rancho Cordova, the City of Elk Grove and the County, both within the service area of Zone 40, implement similar general plan policies. These policies and actions would ensure infrastructure would not be constructed, then abandoned because of lack of water supplies for any proposed new development. Rather, infrastructure associated with approved subdivision maps would be constructed only if sufficient water supplies exist. For these reasons, the impacts of long-term curtailment of development on regional infrastructure would be less than significant. No mitigation measures are required.

Pattern of Development

Buildout of the project site would occur in a contiguous manner and would not result in a “checkerboard” pattern of development, which could result in developed land uses isolating undeveloped parcels. Therefore, it is not expected that developed land uses adjacent to undeveloped parcels would be converted to other uses because of curtailment in development, and impacts associated with patterns of development would be **less than significant**.

Economic Considerations

The long-term curtailment of water leading to the curtailment of development of the project site would be part of a Zone 40 curtailment in development, because reduction in the permanent water supply would not occur on a project-by-project basis. The reduction in the availability of water could result in a region-wide downturn in economic conditions. Lowered economic growth could have substantial impacts to local jurisdictions in the provision of services (e.g., reduced funding for police and fire protection services) and maintenance of existing service infrastructure (e.g., roads, transportation, water, stormwater, and sewage). The curtailment of water supply could serve as a catalyst for a revision in City population projections, with population growth shifting to areas with better water supplies, if such areas were to exist.

While a reduced population and the curtailment in development would lessen the pressure for the potential conversion of farmland and wildlife habitat, constraints placed on development by the reduced level of available water could also place constraints on continued irrigated agricultural practices in the region. It would be speculative, however, to try to predict the level of impact that would occur as the remaining urban and agricultural interests vie for the available water supplies. In general, though, urban water users can typically afford to pay more for water than agricultural users, with the likely result that over time urban users would out-bid and out-compete agricultural users for limited supplies. This trend is already occurring throughout the Central Valley.

Likewise, wildlife habitat would not be subject to development pressures; however, there would be pressure to divert water currently used to maintain biological resources to supply the region's population. Even so, compared with the owners of agricultural lands, the entities managing habitat lands, and especially those preserving habitat for special-status species, might enjoy comparatively more legal protections that might allow them to compete on more favorable terms with urban uses than agricultural users are able to do.

Absent more concrete cause and effect, the economic effects described above are not treated as significant effects on the environment, consistent with CEQA Guidelines Section 15131. Any possible environmental effects that could result from economic effects are too speculative and attenuated to form the basis for concrete impact characterizations and mitigation measures.

Because any existing project development at the time of curtailment would have adequate water supply infrastructure and service; because existing City of Rancho Cordova, County, and City of Elk Grove general plan policies require that new development within the Zone 40 service area can only be approved based on proof of adequate water supplies and infrastructure; and because development of the project site would occur in a contiguous manner and would not result in developed land uses isolating undeveloped parcels, impacts resulting from the permanent curtailment of development would be **direct** and **less than significant**. **No indirect** impacts would occur. *[Similar]*

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require the provision of new long-term, permanent water supplies or conveyance facilities.

Because no development would occur under the No Project Alternative, permanent water supplies and associated infrastructure would not be required; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

Impact 3.5-8: Use of Nonpotable-Water Supplies and Infrastructure. *Project implementation could result in the use of nonpotable-water supplies and infrastructure to provide landscaping and open space irrigation. Initially, the demands for nonpotable water would be met by the project's potable-water supplies. In the long term, it is assumed that future supplies of nonpotable water would be provided by SRCSD or by GET-Remediated Water facilities, when a sufficient supply of nonpotable water is available to meet project demands.*

Applies to: PP, HD, IM, NF.

The City adopted a Citywide Recycled Water Distribution Ordinance (Resolution No. 11-2006) stating that new development should install a “purple pipe” recycled-water distribution system. Therefore, while it may not occur for many years, the project includes a component to implement a recycled-water-use program. All major landscaping and open space areas within the project site would be irrigated via a recycled-water system that could be easily converted from a potable-water supply to a nonpotable-water at some future date.

The draft *Rio del Oro Specific Plan Non-Potable Water Study* (Wood Rodgers 2007b) addressed the viability of providing supplies of nonpotable water to the project site, identified on- and off-site infrastructure needs, and evaluated designs for consistency with the existing WSMP (Wood Rodgers 2007a).

Demands for nonpotable water were calculated based on land uses designated for commercial, school, park, public/quasi-public, and private recreation uses consistent with the Citywide Recycled Water Distribution Ordinance. The project’s demands for nonpotable water at buildout were determined by applying an irrigated-surface-area factor to each proposed land use. The demands for nonpotable water under the Proposed Project Alternative are summarized in Table 3.5-20 below. The demands for nonpotable water under the High Density, Impact Minimization, and No Federal Action Alternatives are summarized in Tables 3.5-21, 3.5-22, and 3.5-23 below.

Table 3.5-20				
Summary of Program Level Land Uses and Demands for Nonpotable Water—Proposed Project Alternative				
Land Use	Area (acres) ¹	Irrigated-Surface-Area Factor ²	Site Area Irrigated (acres)	Water Demand (afy) ³
Commercial	239	0.5	119	431
Schools	151	0.7	106	384
Community/neighborhood parks	169	0.9	152	550
Public/quasi-public/private recreation	64	0.5	32	116
Greenbelt/landscape corridor	92	0.9	83	300
Total	715		492	1,781

Notes:
 afy = acre-feet per year
¹ Total area includes the total surface area of each land use, including those areas that do not require nonpotable water for irrigation (i.e., structures, parking lots, sidewalks).
² Site area irrigated is the amount of irrigated surface area assumed to require nonpotable water, as a percentage of the total area.
³ Annual water demand (afy) = total site area irrigated (acres) x 3.62 acre-feet per acre per year (annual irrigation demand for Sacramento County).
 Sources: Wood Rodgers 2007b, data compiled by EDAW in 2007

Table 3.5-21				
Summary of Program Level Land Uses and Demands for Nonpotable Water—High Density Alternative				
Land Use	Area (acres) ¹	Irrigated-Surface-Area Factor ²	Site Area Irrigated (acres)	Water Demand (afy) ³
Commercial	239	0.5	119	431
Schools	151	0.7	106	384
Community/neighborhood parks	169	0.9	152	550
Public/quasi-public/private recreation	64	0.5	32	116
Greenbelt/landscape corridor	92	0.9	83	300
Total	715		492	1,781

Notes:
 afy = acre-feet per year
¹ Total area includes the total surface area of each land use, including those areas that do not require nonpotable water for irrigation (i.e., structures, parking lots, sidewalks).
² Site area irrigated is the amount of irrigated surface area assumed to require nonpotable water, as a percentage of the total area.
³ Annual water demand (afy) = total site area irrigated (acres) x 3.62 acre-feet per acre per year (annual irrigation demand for Sacramento County).
 Sources: Wood Rodgers 2007b, data compiled by EDAW in 2007.

Land Use	Area (acres) ¹	Irrigated-Surface-Area Factor ²	Site Area Irrigated (acres)	Water Demand (afy) ³
Commercial	235	0.5	118	427
Schools	142	0.7	99	358
Community/neighborhood parks	167	0.9	150	543
Public/quasi-public/private recreation	60	0.5	30	109
Greenbelt/landscape corridor	89	0.9	80	290
Total	693		477	1,727

Notes:
afy = acre-feet per year

¹ Total area includes the total surface area of each land use, including those areas that do not require nonpotable water for irrigation (i.e., structures, parking lots, sidewalks).

² Site area irrigated is the amount of irrigated surface area assumed to require nonpotable water, as a percentage of the total area.

³ Annual water demand (afy) = total site area irrigated (acres) x 3.62 acre-feet per acre per year (annual irrigation demand for Sacramento County).

Sources: Wood Rodgers 2007b, data compiled by EDAW in 2007

Land Use	Area (acres) ¹	Irrigated-Surface-Area Factor ²	Site Area Irrigated (acres)	Water Demand (afy) ³
Commercial	199	0.5	100	362
Schools	143	0.7	100	362
Community/neighborhood parks	182	0.9	164	594
Public/quasi-public/private recreation	48.5	0.5	25	91
Greenbelt/landscape corridor	80	0.9	72	261
Total	652.5		461	1,670

Notes:
afy = acre-feet per year

¹ Total area includes the total surface area of each land use, including those areas that do not require nonpotable water for irrigation (i.e., structures, parking lots, sidewalks).

² Site area irrigated is the amount of irrigated surface area assumed to require nonpotable water, as a percentage of the total area.

³ Annual water demand (afy) = total site area irrigated (acres) x 3.62 acre-feet per acre per year (annual irrigation demand for Sacramento County).

Sources: Wood Rodgers 2007b, data compiled by EDAW in 2007

As shown above, the total projected demands for nonpotable water are 1,781 afy for the Proposed Project Alternative, 1,781 afy for the High Density Alternative, 1,727 afy for the Impact Minimization Alternative, and 1,670 afy for the No Federal Action Alternative. Initially, the demands for nonpotable water would be met by the project's supplies of potable water, which were identified and evaluated in the WSA prepared for the project and discussed in Impact 3.5-5 above. Therefore, impacts associated with nonpotable-water supplies would be the same as those identified for the potable-water supplies (see Impact 3.5-5). In the long term, it is assumed that future

supplies of nonpotable water would be provided by SRCSD or by GET-Remediated Water facilities, when a sufficient supply of nonpotable water is available to meet project demands.

The on-site recycled-water conveyance facilities would follow the same alignment as, and would be installed at the same time as, the potable-water conveyance facilities. Several potential connections between the recycled-water system and the potable-water system have been proposed, but these connections are subject to change in the future after a source of nonpotable water has been identified and off-site infrastructure has been installed. After a supply of nonpotable water is available to serve the project site, the connections to the potable-water system would be closed (Exhibit 3.5-2).

A planned expansion of the water recycling facility plant could serve new areas of planned and expected growth and areas of public open space, including Zone 40 and the city of Rancho Cordova. The expanded water-recycling facility and new water-recycling service areas will be called Phase II of the SRCSD Water Recycling Program. Phase II construction will be timed with the need for the higher capacity and is currently expected to be in service within five to ten years. Off-site facilities (i.e., infrastructure, storage tanks, and booster pumps), including those that would serve the proposed project, would be constructed by SRCSD through Phase II of the SRCSD Water Recycling Program.

Because the project would install a nonpotable-water system that would supply recycled water to the project site in the future when such water becomes available, the project would comply with the City's recycled-water ordinance; therefore, a **direct, less-than-significant** impact would occur. **No indirect** impacts would occur. *[Similar]*

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require new nonpotable-water systems and infrastructure to be provided.

Because no development would occur under the No Project Alternative, nonpotable-water supplies and infrastructure would not be required; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

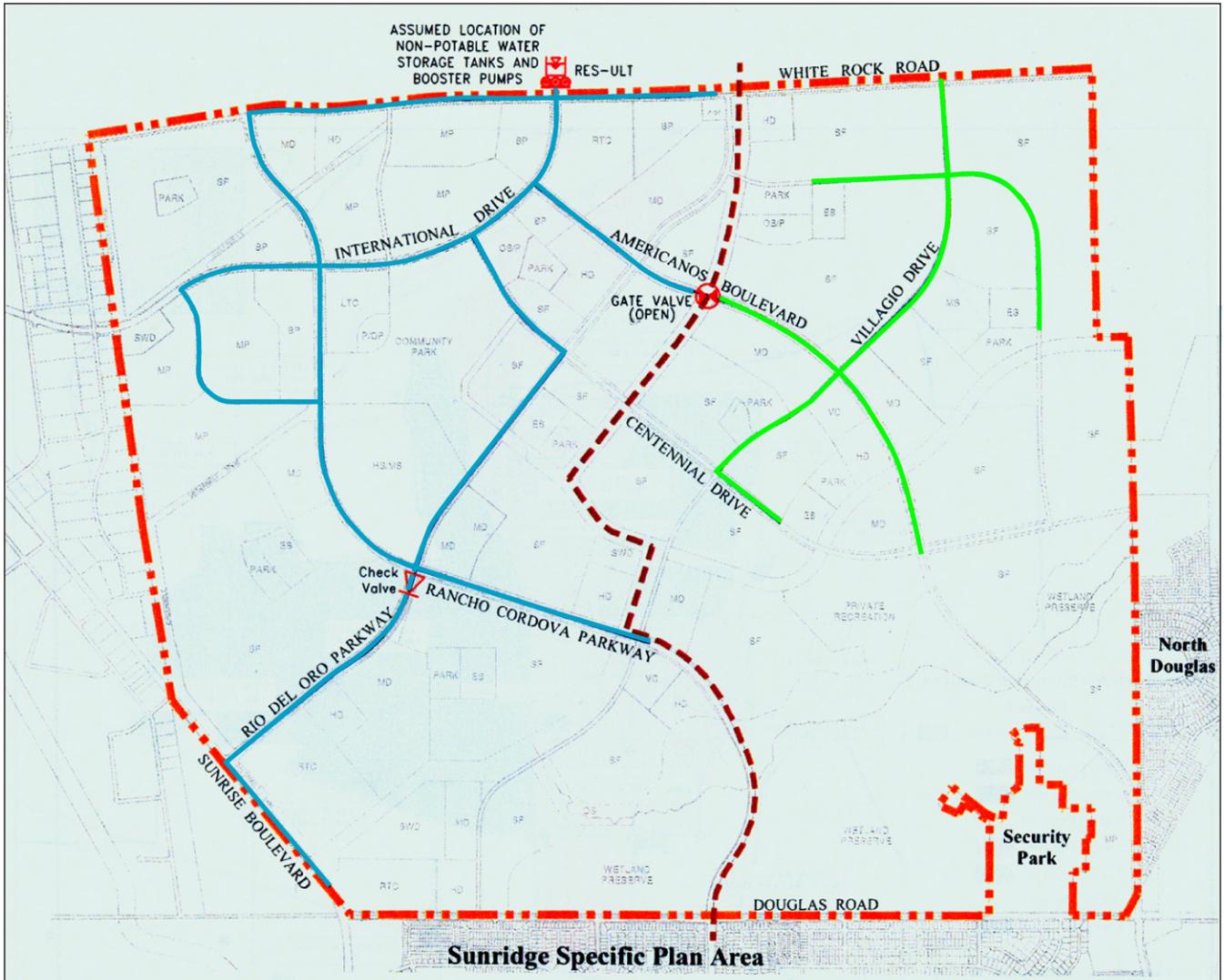
Mitigation Measure: No mitigation measures are required.

Impact 3.5-9: Effects of Global Climate Change on Surface-Water and Groundwater Supplies. *Project implementation would increase demand for water. Supplies of surface water and groundwater in California could be affected by global climate change.*

Applies to: PP, HD, IM, NF.

There are no formally adopted thresholds of significance for measuring effects of global climate change on a project. The primary purpose of a climate-change impact evaluation is to assess whether there are reasonably foreseeable consequences of global climate change that would result in substantial adverse environmental effects on the project, based both on the certainty or uncertainty of modeling results and on the physical nature of the effect.

The current state of the science of global climate change as related to water supply is presented above in Section 3.5.1, "Affected Environment." Based on the conclusions of current literature regarding California's ability to adapt to global climate change, it is reasonably expected that, over time, the state's water system will be modified to be able to handle the projected climate changes, even under dry and/or warm climate scenarios (DWR 2006).



LEGEND

-  Rio del Oro Specific Plan Area Boundary
-  Non-Potable Water Pressure Zone Boundary and SCWA Zone 41/Cal-Am Service Area Boundary
-  Non-Potable Water Pipe - SCWA Zone 41
-  Non-Potable Water Pipe - Cal-Am
-  Non-Potable Water Storage Tank and Booster Pumps
-  Check Valve
-  Gate Valve

G 03110089.01 026

Source: Wood Rogers 2007

Rio del Oro Non-Potable Water System

EXHIBIT 3.5-2

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
 City of Rancho Cordova and USACE
 P 3T089.01 06/05



Coping with climate change effects on California's water supply could come at a considerable cost; however, based on a thorough investigation of the issue, it is reasonably expected that statewide implementation of some, if not several, of the wide variety of adaptation measures available to the state will likely enable California's water system to reliably meet future water demands.

The project's water demands would be met through the conjunctive use of surface-water, groundwater, and remediated-water supplies identified in the Zone 40 WSMP. Although the Zone 40 WSMP does not address the effects of global climate change on the project's water supply, the Zone 40 WSMP, together with the WSA prepared for the project, represent the best available information regarding the effects of single dry, multiple dry, and critically dry years on the project's water supply. For that reason, this analysis relies on the Zone 40 WSMP and the project's WSA in addition to the climate change studies described above.

Zone 40 is located within the Central Basin. Preliminary studies indicate that the Sacramento Valley would experience only a small decline in groundwater levels as a result of global climate change, which would likely have little to no effect on available groundwater supplies that can be pumped from the Central Basin (Vicuña 2006). Groundwater may be used to supplement surface water supply to meet the needs of all Zone 40 water users, including the project, during multiple dry years; however, such future groundwater pumping is not likely to exceed sustainable yield. Moreover, as a signatory to the WFA, SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin (i.e., 273,000 afy) recommended in the WFA. Total groundwater pumping (i.e., urban and agricultural pumping) within the Central Basin is approximately 248,500 afy, of which approximately 59,700 afy is currently pumped within Zone 40 (agricultural demand, 21,900 afy; urban demand, 37,800 afy). In wet and normal water years, SCWA would divert surface water from the American and Sacramento Rivers, consistent with CVP surface-water entitlement contracts. The underlying groundwater basin would be replenished in wet years as a result of this reliance on surface water. In dry and critically dry water years, SCWA's surface water could be reduced based on recommended dry-year cutback volumes outlined in the WFA.

IGSM modeling evaluated projected groundwater pumping by SCWA and all water users within the groundwater basin, including those for agriculture. The results of the groundwater model indicate that in 2030, approximately 74,000 afy of groundwater is expected to be pumped by SCWA and private urban and agricultural water users for use in Zone 40's 2030 Study Area. This volume, combined with other pumping in the Central Basin (including pumping for groundwater remediation), would be below the WFA sustainable-yield recommendation of 273,000 afy for all modeled scenarios that assume some level of reuse of remediated groundwater. Assuming such reuse, average groundwater levels in northern Zone 40 would increase by about 4 feet, while those in southern Zone 40 area would decrease by about 1 foot under the Zone 40 WSMP. Stabilized groundwater elevations at the Central Basin's cone of depression under the modeled scenarios would range from approximately 50 feet below msl to 84 feet below msl, substantially higher than the WFA's projected level of 116–130 feet below msl. Groundwater pumping associated with the Zone 40 WSMP would not cause sustainable-yield recommendations to be exceeded. Therefore, groundwater levels at the Central Basin's cone of depression are projected to be higher than those determined to be acceptable to the Water Forum, and this impact was considered to be less than significant in the EIR for the Zone 40 WSMP.

California could potentially experience an increased number of single dry, multiple dry, and critically dry years as a result of global climate change. There is a great deal of uncertainty about impacts of climate change on future water availability in California, in terms of whether and where effects will occur and what the timing and severity of any such potential effect will be. This uncertainty makes it impossible to draw a meaningful conclusion about significance without substantial speculation. However, because of SCWA's extensive planning efforts in implementing the WFA, preparing the Zone 40 WSMP and Zone 41 2005 UWMP, and participating in the Central Sacramento County Groundwater Forum, SCWA has demonstrated that it has planned for both sufficient water supplies and the infrastructure necessary to meet Zone 40's buildout water demand through the year 2030. The projected Zone 40 demand is estimated to be 113,064 afy, including a portion of the water demand associated with the Rio del Oro project. SCWA is a groundwater appropriator and intends to continue to extract groundwater to meet its customers' demands, within the limits of the negotiated sustainable yield of the Central Basin. SCWA

has CVP surface-water contracts and is securing additional appropriative entitlements to surface water and wholesale water agreements that would allow SCWA to meet its projected 2030 water demands. In addition, SCWA has entered into an agreement with Aerojet and is negotiating updated agreements for the transfer of ownership rights of remediated water discharged by Aerojet.

As described above, SCWA intends to continue pumping groundwater, has secured most of its surface-water rights, has secured rights to beneficial reuse of remediated groundwater within its service area, and is proceeding with development of several water-supply treatment and conveyance facilities; therefore, SCWA's water supplies are considered to have a high reliability of being delivered, even considering the potential impacts on California's water supplies that may be caused by global climate change.

In addition, the project's entitlements to supplies of surface water are unlikely to be affected by global climate change because, as indicated by preliminary results from DWR (2006), impacts of climate change on water supply would be largely reflected in reduced exports south of the Delta, while existing Delta water-quality requirements would continue to be satisfied. It is therefore reasonable to consider that global climate change may have relatively less effect on the project's water supply because the project's supplies of surface water are based on existing surface-water entitlements and contract entitlements for in-basin use above the Delta. Therefore, the impacts of global climate change on the project's water supply would be **direct** and **less than significant**. **No indirect** impacts would occur. *[Similar]*

Mitigation Measure: No mitigation measures are required.

Applies to: NP.

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not require new water supplies that could be affected by global climate change to be provided.

Because no development would occur under the No Project Alternative, there would be no relationship between global climate change and the project. **No direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure: No mitigation measures are required.

PROJECT LEVEL (PHASE 1) IMPACTS AND MITIGATION MEASURES

Impact 3.5-10: Need for Initial Water Supplies for Development Phase 1A. *Project implementation would result in a need for an initial water supply to the project site for development Phase 1A until the SCWA facilities (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.*

Applies to: PP, HD, IM, NF, NP.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-1 for further discussion of this impact.

Impact 3.5-11: Need for Initial Water Supplies for the Remaining Phase 1 Development. *Project implementation would result in a need for an initial water supply to the project site for the remaining Phase 1 development until the SCWA facilities (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.*

Applies to: PP, HD, IM, NF, NP.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-2 for further discussion of this impact.

Implementation of Mitigation Measure 3.5-2 would reduce significant impacts related to the need for initial water supplies to serve the remaining Phase 1 development under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level because the City would require written certification verifying the availability of a long-term, reliable water supply for the project or that needed improvements will be in place prior to occupancy.

If water supply for remaining Phase 1 development is not available because of unknown or unforeseeable events after approval and construction of the remaining Phase 1 development begins, implementation of Mitigation Measure 3.5-2 would result in the curtailment of development, resulting in a partially built-out project. Impacts associated with the curtailment of development are evaluated below in Impact 3.5-4.

Impact 3.5-12: Need for Initial Off-Site Water Conveyance Facilities. Implementation of development Phase 1 would result in increased demand for water conveyance facilities. *Because permanent water conveyance facilities would not be available until completion of the NSAPP, initial conveyance facilities would be required to supply and convey water to the project site.*

Applies to: PP, HD, IM, NF, NP.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-3 for further discussion of this impact.

Implementation of Mitigation Measure 3.5-3 would reduce direct, potentially significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives related to off-site water conveyance facilities to a **less-than-significant** level, because off-site water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be in place before recordation of any final small-lot subdivision map, or before the City approves any similar project-specific, discretionary approval or entitlement required for nonresidential uses. Implementation of Mitigation Measures 3.4-3, 3.6-1, and 3.9-3 from the 2006 DEIR/DEIS would reduce indirect significant impacts under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives related to off-site water conveyance facilities to a **less-than-significant** level, because adverse impacts on cultural resources would be avoided, appropriate BMPs would be implemented to control erosion, and a traffic plan would be developed and implemented during construction activities.

Impact 3.5-13: Temporary Curtailment of Project Development. *Implementation of Mitigation Measure 3.5-2 (for initial supplies) would result in the temporary curtailment of development during the period of time when the project would be dependent on the initial water supplies, resulting in a partially built-out project.*

Applies to: PP, HD, IM, NF, NP.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-4 for further discussion of this impact.

Implementation of the same mitigation measures called for in the 2006 DEIR/DEIS would reduce potentially significant and significant impacts related to curtailment of development for the same reasons elaborated in each section of Chapter 3, “Affected Environment, Environmental Consequences, and Mitigation Measures” of the 2006 DEIR/DEIS.

Impact 3.5-14: Increased Demand for Permanent Water Supplies. *Implementation of development Phase 1 would increase demand on the existing water supply.*

Applies to: PP, HD, IM, NF, NP.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-5 for further discussion of this impact.

Impact 3.5-15: Need for Water Conveyance Facilities to Deliver Long-Term Water Supplies. *Project implementation would require construction of on-site water conveyance facilities to deliver water from SCWA's off-site conveyance facilities to the project site. The permanent long-term water supplies cannot be delivered to the project site until off-site water conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.*

Applied to: PP, HD, IM.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-6 for further discussion of this impact.

Implementation of Mitigation Measure 3.5-3 would reduce direct, potentially significant impacts under the Proposed Project, High Density, and Impact Minimization Alternatives related to on-site and off-site water conveyance facilities to a **less-than-significant** level, because water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be in place before recordation of any final small-lot subdivision map, or before City approval of any similar project-specific, discretionary approval or entitlement required for nonresidential uses. If on-site or off-site water conveyance facilities are delayed or not constructed, implementation of Mitigation Measure 3.5-3 would cause project development to be permanently curtailed because existing water supplies may not be available to meet the demands of the project. Impacts associated with permanent curtailment of development are discussed in Impact 3.5-7.

Regarding expansion of Zone 40 water supply facilities and infrastructure, implementation of mitigation measures to reduce impacts is the responsibility of Zone 40. Such measures would be implemented in accordance with the certified Zone 40 EIR prepared by SCWA. Impacts on seven issue areas would remain **significant and unavoidable** after implementation of mitigation.

Similarly, implementation of mitigation measures to reduce impacts related to the expansion of the FRWP water supply facilities and infrastructure is the responsibility of SCWA and EBMUD. Such measures would be implemented in accordance with the certified FRWP EIR/EIS prepared by FRWA. Impacts on six issue areas would remain **significant and unavoidable** after implementation of mitigation.

Applied to: NF.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-6 for further discussion of this impact.

Implementation of Mitigation Measure 3.5-3 would reduce direct potentially significant impacts under the No Federal Action Alternative related to off-site water conveyance facilities because the construction and financing of water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be reasonably foreseeable before recordation of any final small-lot subdivision map, or before City approval of any similar project-specific, discretionary approval or entitlement required for nonresidential uses. However, impacts would not be reduced to a less-than-significant level.

Implementation of Mitigation Measure 3.5-3 under the No Federal Action Alternative would result in indirect off-site impacts related to water supply to surrounding development in Rancho Cordova, as follows:

- ▶ Construction of new off-site alternative alignments of water conveyance facilities would be necessary to serve surrounding development. These alternative alignments would require separate CEQA review; therefore, the full extent of impacts cannot be determined. However, it is assumed that implementation of alternative pipeline alignments would result in significant impacts on biological resources, as well as significant construction-related impacts (i.e., construction-related traffic, air-quality emissions, water quality, and noise impacts).
- ▶ If new water conveyance facilities with alternative alignments could not be constructed off-site, temporary or permanent curtailment of planned development in the surrounding area could result from a lack of necessary water conveyance facilities. Curtailing planned off-site development could result in its own set of potentially significant impacts, including a lack of funding that might be necessary to implement infrastructure (e.g., roads, sewer, and water) required on a regional or local level.

Identification of alternative water supply pipeline alignments would fall under the jurisdiction of the County and SWCA; therefore, neither the City nor the project applicant(s) could guarantee approval of these alternative pipeline alignments. Additionally, it is possible that these alternative alignments would be inconsistent with SWCA's WSMP and would be subject to separate CEQA compliance. For these reasons, this impact would remain **significant and unavoidable**. If the County, SWCA, and other potentially affected agencies cooperate in allowing the improvements to move forward, the impact would be classified as significant in the short term but eventually could be reduced to a less-than-significant level in the long term, depending on the outcome of the separate CEQA evaluation (if needed).

Regarding expansion of Zone 40 water supply facilities and infrastructure, implementation of mitigation measures to reduce impacts is the responsibility of Zone 40. Such measures would be implemented in accordance with the certified Zone 40 EIR prepared by SCWA. Impacts on seven issue areas would remain **significant and unavoidable** after implementation of mitigation.

Similarly, implementation of mitigation measures to reduce impacts related to the expansion of the FRWP's water-supply facilities and infrastructure is the responsibility of SCWA. Such measures would be implemented in accordance with the certified FRWP EIR/EIS prepared by SCWA. Impacts on six issue areas would remain **significant and unavoidable** after implementation of mitigation.

If on-site or off-site water conveyance facilities are delayed or not constructed, implementation of Mitigation Measure 3.5-3 would cause project development to be curtailed. Impacts associated with the curtailment of development are discussed in Impact 3.5-4.

Impact 3.5-16: Permanent Curtailment of Project Development. *Water supplies would be available to meet the project's long-term water demands once the long-term water supply conveyance facilities identified in the Zone 40 WSMP (i.e., Vineyard Surface WTP, FRWP, and NSAPP) have been constructed and are online. While there is a reasonable likelihood that SCWA has water to supply the project in the long term, there is uncertainty regarding whether the infrastructure necessary to deliver the long-term water supplies needed to serve the project would successfully implemented, and a permanent curtailment in project development could occur.*

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-7 for further discussion of this impact.

Impact 3.5-17: Use of Nonpotable-Water Supplies and Infrastructure. *Project implementation could result in the use of nonpotable-water supplies and infrastructure to provide landscaping and open space irrigation. Initially, the demands for nonpotable water would be met by the project's potable-water supplies. In the long term, it is assumed that future supplies of*

nonpotable water would be provided by SRCSD or by GET-Remediated Water facilities, when a sufficient supply of nonpotable water is available to meet project demands.

Applies to: PP, HD, IM, NF, NP.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-8 for further discussion of this impact.

Impact 3.5-18: Effects of Global Climate Change on Surface-Water and Groundwater Supplies. *Implementation of development Phase 1 would increase demand for water supply. Supplies of surface water and groundwater in California could be affected by global climate change.*

Applies to: PP, HD, IM, NF, NP.

Impacts would be the same under Phase 1 as under the program (entire project site) level analysis for all alternatives. Refer to Impact 3.5-9 for further discussion of this impact.

CUMULATIVE IMPACTS

Future development in Rancho Cordova and Sacramento County would increase demand for water supplies and infrastructure in the city and the region. In particular, the cumulative development scenario would increase demand for initial water supplies and conveyance facilities, permanent long-term water supplies and conveyance facilities, and nonpotable-water supplies and conveyance facilities.

Initial Water Supply and Conveyance Facilities

Because the long-term water supplies cannot be delivered to the project site until the SCWA facilities (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online, the project applicant(s) have discussed the availability of an initial water supply and infrastructure with SCWA and GSWC. As a result of these discussions, the project applicant(s) have identified potential water-supply options and necessary off-site water conveyance facilities for providing initial water to the project site. GSWC has indicated that it would have an adequate water supply to serve Phase 1A. This water supply is considered a reliable source of potable water; therefore, there is reasonable certainty that initial water supplies needed to serve Phase 1A would be available.

However, to provide water supplies to the remaining development within Phase 1, the project applicant(s) have identified two additional water supply options (Options A and B). If neither of these water supply options is approved, water supplies may not be available to meet the demands of the remainder of development Phase 1, and this water supply is not considered a reliable source of potable water. Implementation of Mitigation Measure 3.5-2 would reduce significant impacts related to the need for initial water supplies to serve the remainder of Phase 1 development to a less-than-significant level, because the City would ensure that water supply and delivery systems are available to meet the demand created by new development, or are guaranteed to be built by bonds or securities prior to approval of project entitlements.

Off-site water conveyance facilities (e.g., pipelines and pump stations) would need to be constructed to deliver water from GSWC's facilities to the project site, based on approved designs for initial water conveyance facilities. Although the new pipeline is needed to convey water from the GSWC system to the project on an initial basis, it would remain in use after the long-term water supplies for the project were constructed and online. The pipeline would then serve as an active intertie between GSWC's existing system and the existing SCWA system. As such, the pipeline would provide redundancy to both systems and act as a conveyance mechanism for SCWA to provide replacement water to GSWC in the future to planned development. The proposed project would not result in a

cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

Permanent Water Supply

SCWA prepared and adopted its Zone 40 WSMP, which describes the facilities and the construction financing mechanism needed to implement a phased water-supply program to meet the region's water needs into the foreseeable future, specifically the year 2030. The goal of the master plan is to define a conjunctive-use program of groundwater, surface-water, and recycled-water supplies as well as a financing program for the construction of a new surface-water diversion structure; surface-water treatment plant; water conveyance pipelines; and groundwater extraction, treatment, and distribution facilities. These facilities would be used for the production, conservation, transmission, and distribution of wholesale and retail water supplies into the year 2030.

The project would be served by SCWA Zone 40 through its conjunctive-use water-supply system. SCWA has entitlements to surface water, is a groundwater appropriator, and has entered into an agreement with Aerojet to beneficially reuse GET-Remediated Water. As discussed in Impact 3.5-5 above, as required by SB 610, a WSA has been prepared and adopted by the SWCA Board of Directors for the project. The WSA evaluates the adequacy of existing and future water supplies to meet the water demand created by the Rio del Oro project in conjunction with existing development in Rancho Cordova and future related, reasonably foreseeable projects. As shown in Table 3.5-13 of this Recirculated DEIR/Supplemental DEIS, the total water demand under the Proposed Project Alternative is estimated to be 8,981 afy. As shown in Tables 3.5-17 through 3.5-19, SCWA has adequate water supplies available to meet projected water demands, even in critically dry years.

GET-Remediated Water is available in sufficient quantities to meet the project's water demands. GET-Remediated Water is currently discharged to the American River and is available for diversion at the FRWP on the Sacramento River under the terms of an agreement between Aerojet and SCWA. The agreement, which was entered in 2003, grants to SCWA the GET-Remediated Water discharged to the American River.

According to the Zone 40 WSMP, the Zone 41 UWMP, and the City's WSA, reliable, long-term water supplies would be available to serve Zone 40 through 2030. SCWA has secured (and is securing additional) water entitlements that would allow SCWA to meet its projected 2030 water demands. SCWA intends to continue to extract groundwater to meet its customers' demands, within the limits of the negotiated sustainable yield of the Central Basin. However, because SCWA does not currently control the water supplies necessary to meet the water supply demands full build-out of Zone 40 (namely the appropriative water, transfer water and POU water supplies), these particular supplies cannot be considered "reasonably likely" under the *Vineyards* case (under a conservative analysis). Taking into consideration only those water supplies "reasonably likely" to be available to SCWA to supply Zone 40 demand other than Aerojet lands and replacement water demands (i.e., the Fazio and SMUD CVP contract supplies and groundwater pumped at levels no greater than the negotiated sustainable yield for the Central Basin as determined under the Water Forum Agreement), there would be a long-term shortfall, resulting in a significant cumulative impact associated with increased demand for water supply in Zone 40. While the Rio del Oro project would rely substantially on the water from the GET Remediated Water transferred to SCWA for use within Aerojet lands, the project would also utilize 1,500 afy from Zone 40 water supplies, thus making that water unavailable to other developing areas seeking water supplies after allocations have been made to Rio. Therefore, the Rio del Oro project's reliance on a portion of the Zone 40 water supplies would result in a cumulatively considerable incremental contribution to the cumulatively significant impact of increased demand for water supply in Zone 40.

Permanent Water Conveyance Facilities

The permanent long-term water supply cannot be delivered to the project site until water conveyance facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP) have been constructed and are online.

Because the facilities identified in the Zone 40 WSMP (i.e., the Vineyard Surface WTP, the FRWP, and NSAPP) would be constructed to serve the project and other development in the region, the environmental impacts of these facilities are associated with development of the project. The Zone 40 WSMP and the FRWP are required to serve regional development and would also occur without development of the project; because these facilities are required to serve regional development, they would be required whether or not the project is developed. Because there is a relationship between the project and the need for these water facilities, approval of the project contributes indirectly to the related impacts. Impacts resulting from construction of these water facilities were addressed in the EIR for the Zone 40 WSMP and the FRWP EIR/EIS. As discussed under Impact 3.5-6, construction of these water facilities would result in several significant environmental impacts, most of which would be reduced to a less-than-significant level through implementation of mitigation identified in the EIR for the Zone 40 WSMP and the FRWP EIR/EIS. Impacts identified in the EIR for the Zone 40 WSMP that would remain significant or potentially significant after implementation of mitigation include direct visual impacts, potential direct impacts on a variety of biological resources, potential loss of habitat from development of facilities that would otherwise be included in the proposed SSCHCP, air-quality emissions of NO_x during construction, noise during construction, and potential long-term stationary-source noise impacts. Impacts identified in the FRWP EIR/EIS that would remain significant or potentially significant after implementation of mitigation include loss of whitewater boating, noise impacts during construction, long-term stationary-source noise impacts, and changes in visual resources.

Therefore, the Rio del Oro project and related projects would contribute to the indirect and direct significant impacts associated with the future construction of water facilities that would be needed to serve the project and other regional development. Cumulative impacts associated with increased demand for water conveyance facilities to deliver long-term water supplies to the project would result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

Nonpotable-Water Supplies and Infrastructure

The City adopted a Citywide Recycled Water Distribution Ordinance (Resolution No. 11-2006) stating that new development should install a “purple pipe” recycled-water distribution system. Therefore, while it may not occur for many years, the project includes a component to implement a recycled-water-use program. Initially, the demands for nonpotable water would be met by the project’s supplies of potable water. In the long term, it is assumed that future supplies of nonpotable water would be provided by SRCSD or by GET-Remediated Water facilities, when a sufficient supply of nonpotable water is available to meet project demands.

It is expected that related projects would install a purple-pipe system consistent with the Citywide Recycled Water Distribution Ordinance, and it is assumed that future supplies of nonpotable water would be provided to these related projects, when sufficient supplies are available to meet each project’s demands. Therefore, cumulative impacts related to nonpotable water are expected to be less than significant. The proposed project would not result in a cumulatively considerable incremental contribution to this cumulatively significant impact from the Rio del Oro project and related projects.

Global Climate Change

As described in detail above in Impact 3.5-8, the project’s entitlements to surface water supplies are unlikely to be affected by global climate change because, as indicated by preliminary results from DWR (2006), impacts of climate change on water supply would be largely reflected in reduced exports south of the Delta, while existing Delta water-quality requirements would continue to be satisfied. It is therefore reasonable to consider that global climate change may have relatively less effect on the project’s water supply because the project’s supplies of surface water are based on existing water rights and contract entitlements for in-basin use above the Delta.

California could potentially experience an increased number of single dry, multiple dry, and critically dry years as a result of global climate change. Based on the conclusions of current literature about California’s ability to adapt

to global climate change, it is reasonably expected that, over time, the state's water system will be modified to be able to handle the projected climate changes, even under dry and/or warm climate scenarios (DWR 2006). Coping with the effects of climate change on California's water supply could come at a considerable cost; however, based on a thorough investigation of the issue, it is reasonably expected that statewide implementation of some, if not several, of the wide variety of adaptation measures available to the state will likely enable California's water system to reliably meet future water demands. However, there is a great deal of uncertainty about impacts of climate change on the future availability of water in California, in terms of whether and where effects will occur and what the timing and severity of any such potential effect will be. Therefore, this uncertainty makes it impossible to draw a meaningful conclusion about the cumulative significance of global climate change on surface water and groundwater for the proposed project and state-wide without substantial speculation.

3.5.6 RESIDUAL SIGNIFICANT IMPACTS

With implementation of the mitigation measures listed above, project implementation would not result in any direct residual significant impacts related to initial water supplies for the remaining Phase 1 development and initial water conveyance facilities. Regarding construction of water conveyance facilities to provide long-term water supplies (i.e., the Vineyard Surface WTP, the FRWP, and the NSAPP), the project would contribute to direct and indirect impacts in seven issue areas that were identified in the EIR for the Zone 40 WSMP and six issue areas identified in the FRWP EIR/EIS. Cumulative impacts associated with permanent water supply and construction of permanent water conveyance facilities would be significant. Therefore, project implementation would result in residual significant impacts related to water conveyance facilities to deliver long-term water supplies, and the long-term water supplies themselves.

3.10 BIOLOGICAL RESOURCES

3.10.1 AFFECTED ENVIRONMENT

Gold mining activities that consisted of dredging alluvial deposits occurred on the project site from historic times through 1962. The dredging operations significantly altered the natural landscape of the site by creating massive piles of tailings that cover extensive portions of the site. These piles resulted in the creation of basins in between tailings that filled with water because of their low-lying locations on the landscape and because of mining-related manipulation of the site's surface water and groundwater supplies. Further alterations to the natural landscape occurred when the site was used for development and testing of rocket engines. In recent years, large portions of the project site have been used mainly for grazing of livestock (horses and cattle).

Reconnaissance-level surveys of the project site were conducted by EDAW biologists on December 13, 2004, and January 12 and 13, 2005. These surveys consisted of walking meandering transects throughout the project site. The purpose of the surveys was to characterize and map biological resources present on the project site in sufficient detail to support a determination of overall habitat quality. To provide a thorough characterization of the habitat types present, data were collected at 35 representative sampling points at the project site. Each habitat type present at the project site, as determined using aerial photographs, included at least one sampling point. At each sampling point the biologists surveyed an area within an approximately 100-foot radius of the point.

The following protocol-level biological resource surveys have been conducted at the project site and were used as sources of information for this document:

- ▶ *Jurisdictional Delineation, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 1999);
- ▶ *Wetland Delineation for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2004a);
- ▶ *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 2000a);
- ▶ *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson & Skordal 2000b, 2001);
- ▶ *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Sacramento County, CA* (ECORP Consulting 2003);
- ▶ *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003);
- ▶ *Late Season Special-Status Plant Survey for Rio del Oro, Sacramento County, California* (ECORP Consulting 2006); and
- ▶ *Soil Investigation of Rio del Oro Wetlands Preserve prepared for ECORP Environmental Consultants* (Davis² Consulting Earth Scientists 2007).

VEGETATION

The landscape on the northern half of the project site is characterized by linear rows of dredge tailings interspersed with excavated basins. The tailings are sparsely vegetated with ruderal plant species that are also associated with the annual grassland vegetation on the project site. The basins are characterized by a variety of riparian plant communities including coyote brush scrub, willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, oak woodland, and cottonwood–willow riparian forest. The remainder of the project site is characterized by annual grassland habitat interspersed with vernal pools and seasonal wetlands. Morrison Creek, a seasonal drainage, traverses the southern half of the project site in an east-to-west direction. The project site also contains several roads and developed areas as well as the White Rock Dump site.

Although the riparian vegetation associations described in this document are referred to as riparian habitat, they occur in isolated basins between tailings and are not associated with drainages characterized by a bed and bank. These riparian habitat types have evolved in response to the unique physical characteristics created on the project site by the historical dredging activities. Riparian vegetation throughout much of the project site is characterized by trees and shrubs that are old and senescent (i.e., in the growth phase in which the plant proceeds from full maturity to death), with little regeneration occurring. It appears that hydrologic conditions that allowed riparian vegetation to originally establish within the basins have changed and no longer support regeneration. A review of U.S. Geological Survey (μ) topographic maps of the area revealed that some water features that were present approximately 20 years ago no longer exist.

More than 1,500 trees with a diameter at breast height (dbh) of 6 inches or greater have been documented on the project site (Sierra Nevada Arborists 2003); most of these are located on the northern half of the project site. The southern portion of the project site is characterized by a mosaic of annual grassland vegetation, interspersed with vernal pools and seasonal wetlands. Seasonal drainages, including Morrison Creek, also traverse this plant community.

Plant communities found on the project site are described below and depicted in Exhibit 3.10-1. Plant community nomenclature and descriptions are based on Holland (1986) with some modifications to reflect local variation. Vernal pools and other wetlands are discussed in the “Sensitive Biological Resources” section below.

Annual Grassland

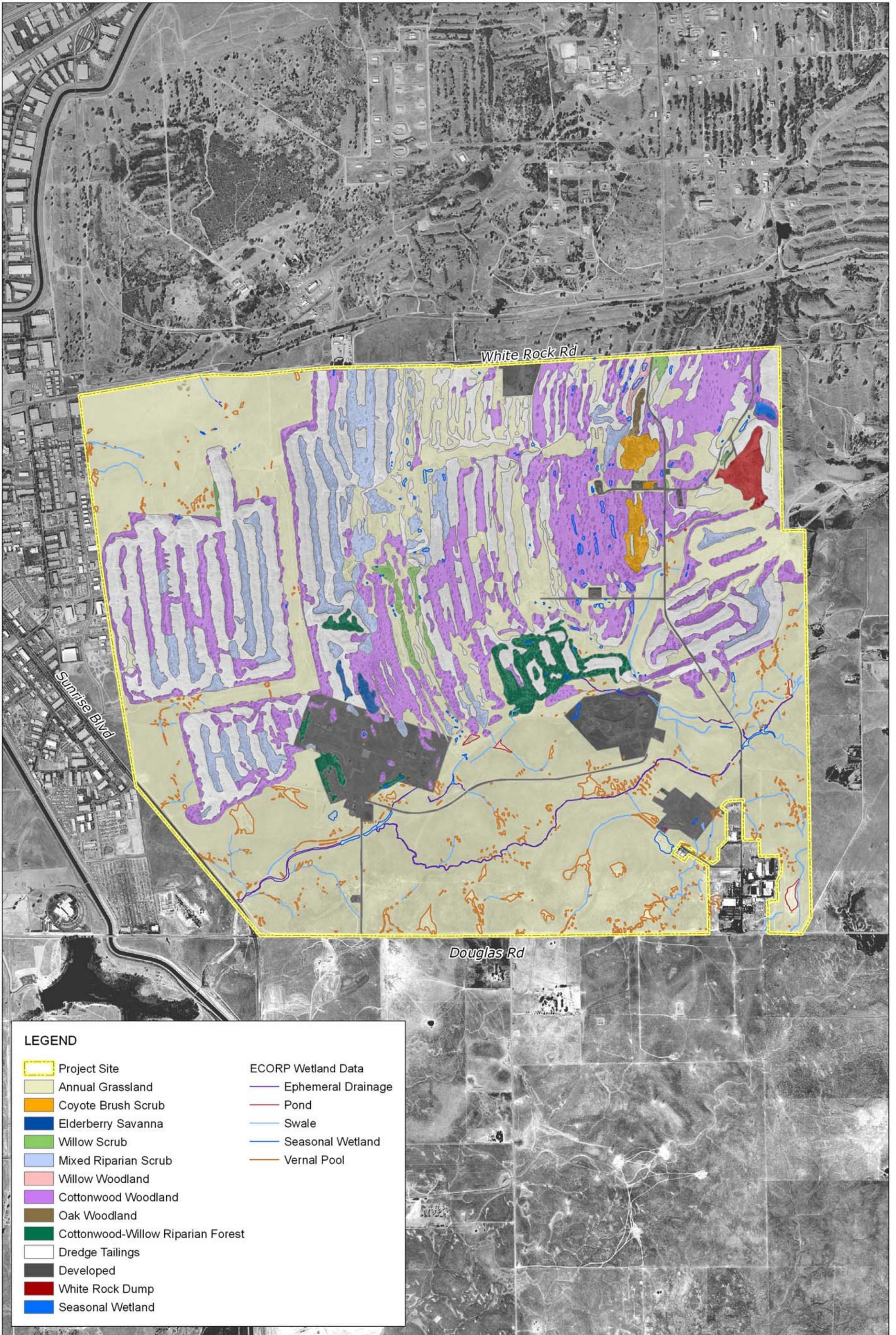
Annual grassland covers approximately 1,975 acres, half the project site, and is the most extensive plant community on the site. Annual grassland is found on the unmined portions of the site; it also characterizes the understory of the riparian communities. Annual grassland on the project site is characterized by a dense cover of nonnative grasses and forbs: ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), Italian thistle (*Carduus pycnocephalus*), yellow starthistle (*Centaurea solstitialis*), dovefoot geranium (*Geranium molle*), medusa head (*Taeniatherum caput-medusae*), rose clover (*Trifolium hirtum*), and vetch (*Vicia* spp.). Ruderal annual grassland is found on the remnant soils of the tailing piles, where plant cover is sparse and yellow starthistle, an invasive weed, is common. Annual grassland outside of the mounds of tailings supports some native forbs such as California poppy (*Eschscholzia californica*) and narrow tarplant (*Holocarpha virgata*). In areas between tailing mounds, the annual grassland plant community frequently includes a high percentage of blessed milk thistle (*Silybum marianum*).

Coyote Brush Scrub

Approximately 23 acres of coyote brush scrub occur on the project site. This community is found between some of the smaller tailing mounds that are more widely spaced, such as those located in the northeastern quadrant of the project site. It also occurs as patchy thickets in the mixed riparian scrub understory. This is a medium-height shrub community dominated by coyote brush (*Baccharis pilularis*), with scattered Fremont cottonwood trees (*Populus fremontii*) and willow shrubs (*Salix* sp.). The annual grassland understory is less dense in this community because of the dense shrub cover.

Willow Scrub

Areas of willow scrub vegetation totaling approximately 16 acres occur in basins at the foot of tailing mounds at scattered locations on the project site. This plant community is characterized by relatively dense stands (at least 50% cover) of willow with occasional cottonwood trees. No other trees or shrubs exist in this community. Areas delineated as willow scrub habitat typically consist of even-aged shrubs of arroyo willow (*Salix lasiolepis*). This community consists almost exclusively of willows of similar size and shape, and willow regeneration is generally lacking because the hydrology required for such regeneration appears to be absent; as a result, structural diversity within this habitat type is low.

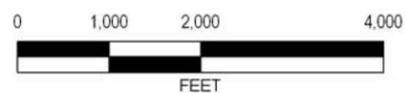


Source: EDAW 2005, Sacramento County 2002, ECORP Consulting 2004(b)

Habitat Types at the Rio del Oro Project Site

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
City of Rancho Cordova and USACE

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Mixed Riparian Scrub

Mixed riparian scrub is common in the basins interspersed on the northern half of the site. Approximately 190 acres of this habitat type are present on the project site. Mixed riparian scrub consists of an open tree canopy characterized by Fremont cottonwood and moderate to dense shrub cover (15%–45%) characterized by willows and coyote brush.

Scattered interior live oak (*Quercus wislizenii*) and walnut trees, as well as elderberry shrubs, often exist in this vegetation type. Structural diversity within this habitat type is good because of the variety of shrub sizes and shapes, and the fact that distribution patterns vary from dense shrub thickets to more open stands of shrubs. Although the diversity of plant species within this habitat type is greater than that within most of the habitat types at the project site, it is much lower than the diversity of typical mixed riparian habitats that are associated with streams, and an overall lack of tree and shrub regeneration was observed. The hydrologic conditions typically required for regeneration of riparian tree and shrub species appear to be absent.

Elderberry Savanna

Two small basin areas occupying approximately 16 acres in the southwest quadrant of the project site are dominated by elderberry savanna. This plant community is characterized by open stands of elderberry (*Sambucus mexicana*) with an understory of annual grassland. Few living elderberry shrubs remain in these areas and a high percentage of these are senescent, which may indicate a reduction in the shallow groundwater needed to promote growth and propagation of elderberry shrubs. No elderberry regeneration was observed. Total shrub cover in the elderberry savanna on-site is very low (2%–5%) and total tree cover is less than 1%. The majority of the elderberry shrubs observed in this community are dead. A few scattered cottonwood trees exist along the edges of this vegetation community.

Willow Woodland

A single area approximately 4 acres in size that is dominated by willow woodland is located between tailing mounds near White Rock Road in the northeast quadrant of the project site. This plant community is characterized by open stands of willow trees and shrubs; interior live-oak trees exist along the edges of the basin. Structural diversity is moderate because of the varying sizes and shapes of willows, but there are no really large trees (oaks on-site average 25 feet in height and 9 inches dbh) or dense shrub thickets in this area. Willows appear to be healthy and regenerating well in this habitat. Two large pools of water were observed in this habitat type during the time that surveys were conducted for the *Rio del Oro Habitat Assessment* (EDAW 2005) (Appendix E of the 2006 draft environmental impact report/draft environmental impact statement [2006 DEIR/DEIS]) and were identified as seasonal wetlands during the wetland delineation that was verified by the U.S. Army Corps of Engineers (USACE) in 2004 (ECORP Consulting 2004a).

Cottonwood Woodland

Cottonwood woodland, dominated by Fremont cottonwood, is the most common plant community in the basins between the mounds of tailings. Approximately 597 acres of mostly open cottonwood woodland are present on the project site. A sparse subcanopy consisting primarily of arroyo willow is often found, but it generally does not constitute more than 5% canopy cover. Dense cover, consisting of annual grasses and forbs in the understory, downed trees, and dead tree snags, is a common component of this community. In basins between tall, closely spaced tailing mounds such as those in the western half of the project site, the cottonwood trees and willows that exist in the area are distributed mostly along the basin edges, while open grassland is found on the basin floors. In the eastern half of the project site, where the tailing mounds are lower and more widely spaced, cottonwood trees are distributed more randomly. Structural diversity within this habitat type is low to moderate depending on whether willow shrubs exist in the area. Some seasonal wetlands were mapped within this habitat type, particularly in the eastern half of the project site, during the wetland delineation that was verified by USACE in 2004 (ECORP Consulting 2004a), but the hydrology that initially allowed cottonwood woodland to establish here

was observed to be absent. Cottonwood trees throughout the cottonwood woodland on the project site appear old and senescent and no cottonwood regeneration was observed in any of this habitat.

Oak Woodland

Oak woodland on the project site is restricted to a 3-acre area located between tailing mounds near White Rock Road in the northeast quadrant. This plant community is characterized by an open tree canopy that consists of interior live oak with scattered foothill pine (*Pinus sabiniana*). The dense shrub layer is dominated by coyote brush with scattered willow and elderberry. A total of 47 oak trees greater than 6 inches dbh have been documented on the project site (Sierra Nevada Arborists 2003). Structural diversity in the oak woodland community is good because of the variety of species and tree and shrub sizes; however, because of the relative lack of larger diameter trees, the oak woodland on-site would not provide suitable nesting habitat for raptors.

Cottonwood–Willow Riparian Forest

Based on vegetation association, there are approximately 57 acres of cottonwood–willow riparian forest on the project site, primarily among tailing mounds in the southeast quadrant. Three smaller occurrences of this community type are present on the project site, two of which are located within fenced and developed areas that were used previously for rocket testing. The cottonwood–willow riparian forest on the project site is characterized by a dense canopy of Fremont cottonwood trees up to 60 feet tall and willow shrubs and trees up to 15 feet tall. Willow species present include arroyo willow, Pacific willow (*Salix lucida* ssp. *lasiandra*), and sandbar willow (*S. exigua*). Trees and shrubs are well distributed across the basins and the annual grassland understory is less dense because of the dense shrub and tree layers (tree cover averages 35%–40% and shrub cover averages 40%–50%). Areas supporting this plant community appear to be generally wetter than most of the other basins on-site and receive runoff from at least two seasonal drainages. Several areas of pooled water were observed in this community type by EDAW biologists in January 2005. The wet conditions of the site that created this vegetation association in the first place appear to be extant (i.e., still exist, have not been destroyed), and the cottonwood–willow riparian forest in the southeast quadrant would be expected to have a better chance of long-term survival than vegetation associations in other basins on the project site that appear drier.

WILDLIFE

The project site supports an abundant and diverse fauna. This large and mostly contiguous block of open space, dominated by natural plant communities, is particularly important to native grassland wildlife species. The project site provides habitat for both resident breeding and migratory raptors that prefer large tracks of open grassland for foraging. The fragmented and disturbed scrub and woodland communities are attractive to many of the common wildlife species in Sacramento County, as well as a few special-status wildlife species, which are discussed separately below under “Sensitive Biological Resources.” The site also enables wildlife movement through the area because of the large amount of open space and its continuous nature with adjacent undeveloped properties to the north and east.

A few of the many common wildlife species expected to occur on the project site include red-tailed hawk (*Buteo jamaicensis*), coyote (*Canis latrans*), black-tailed hare (*Lepus californicus*), savannah sparrow (*Passerculus sandwichensis*), gopher snake (*Pituophis melanoleucus*), Say’s phoebe (*Sayornis phoebe*), western fence lizard (*Sceloporus occidentalis*), western meadowlark (*Sturnella neglecta*), and western kingbird (*Tyrannus verticalis*).

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources addressed in this section include those that are afforded special protection through the California Environmental Quality Act (CEQA), the California Fish and Game Code (including but not limited to the California Endangered Species Act [CESA]), federal Endangered Species Act (ESA), Clean Water Act

(CWA), Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and the *Rancho Cordova General Plan* (City General Plan) (City of Rancho Cordova 2006a).

Special-Status Species

Special-status species are defined as species that are legally protected or otherwise considered sensitive by federal, state, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- ▶ species officially listed by the State of California or the federal government as endangered, threatened, or rare;
- ▶ candidates for state or federal listing as endangered, threatened, or rare;
- ▶ taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the State CEQA Guidelines;
- ▶ species identified by the California Department of Fish and Game (DFG) as Species of Special Concern;
- ▶ species afforded protection under local planning documents; and
- ▶ taxa considered by the California Native Plant Society (CNPS) to be “rare, threatened, or endangered in California.” The CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS Inventory) (CNPS 2005) includes five lists for categorizing plant species of concern, which are summarized as follows:
 - List 1A—Plants presumed to be extinct in California
 - List 1B—Plants that are rare, threatened, or endangered in California and elsewhere
 - List 2—Plants that are rare, threatened, or endangered in California but more common elsewhere
 - List 3—Plants about which more information is needed (a review list)
 - List 4—Plants of limited distribution (a watch list)

Plant inventories prepared by CNPS provide one source of substantial evidence that is used by lead agencies to determine what plants meet the definition of endangered, rare, or threatened species, as described in Section 15380 of the State CEQA Guidelines. For purposes of this document, the relevant inventories are List 1B (plants that are rare, threatened, or endangered in California and elsewhere) and List 2 (plants that are rare, threatened, or endangered in California but more common elsewhere). All plants listed in the CNPS Inventory (CNPS 2005) are considered “special plants” by DFG. The term “special plants” is a broad term used by DFG to refer to all of the plant taxa inventoried by the California Natural Diversity Database (CNDDDB), regardless of their legal or protection status. Notation as a List 1B or 2 plant species does not automatically qualify the species as endangered, rare, or threatened within the definition of State CEQA Guidelines Section 15380. Rather, CNPS designations are considered along with other available information about the status, threats, and population condition of plant species to determine whether a species warrants evaluation as an endangered, rare, or threatened species under CEQA. Other sources include consultation with biologists from federal, state responsible, and state trustee agencies with jurisdiction over natural resources of the project site and area; published and unpublished research; field survey records; local and regional plans adopted for the conservation of species (such as habitat conservation plans or natural community conservation plans), other CEQA or National Environmental Policy Act (NEPA) documents; or other relevant information. Plants on Lists 1A, 1B, and 2 of the CNPS Inventory may qualify for listing, and DFG recommends—and local governments may require—that these species be addressed in CEQA projects. However, a plant species need not be in the CNPS Inventory to be considered a rare, threatened, or endangered species under CEQA.

Tables 3.10-1 and 3.10-2 below provide lists of special-status species known to occur or with potential to occur on the project site. This list was developed through a review of biological studies previously conducted on the

project site and in the vicinity and observations made during field surveys conducted for this project. The CNDDDB (2005) and CNPS database (CNPS 2005) were also reviewed for specific information on previously documented occurrences of special-status species in the Carmichael and Buffalo Creek USGS quadrangles. A number of special-status species have been documented elsewhere in Sacramento County but are not addressed in this DEIR/DEIS. These include species that occurred historically but are considered to be extirpated from the county; species that are restricted to higher elevations (i.e., foothill locations) in the county; and species that are restricted to habitats that are not present on the project site.

**Table 3.10-1
Special-Status Plant Species Known to Occur or with Potential to Occur on the Project Site**

Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFG	CNPS		
PLANTS					
Dwarf downingia <i>Downingia pusilla</i>	–	–	2	Mesic sites in valley and foothill grassland, vernal pools. Blooms March–May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP Consulting 2003).
Tuolumne button-celery <i>Eryngium pinnatisectum</i>	–	–	1B	Mesic sites in cismontane woodland and lower montane coniferous forest, vernal pools. Blooms June–August	Unlikely to occur; suitable habitat is present, but the project site is lower than the species' known elevation range, and it was not found during special-status plant surveys conducted at the project site in 2003 (ECORP Consulting 2003).
Bogg's Lake hedge hyssop <i>Gratiola heterosepala</i>	–	E	1B	Marshes and swamps, vernal pools. Blooms April–August	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP Consulting 2003). There is a known population approximately 3 miles from the project site.
Northern California black walnut <i>Juglans hindsii</i>	–	–	1B	Riparian scrub, riparian woodland. Blooms April–May	Known to occur; walnut trees were identified at the project site during the tree survey in 2003 (Sierra Nevada Arborists 2003); likely to be hybrids between <i>Juglans hindsii</i> and <i>J. regia</i> .
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	–	–	1B	Mesic valley and foothill grassland. Blooms March–May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP Consulting 2003).

**Table 3.10-1
Special-Status Plant Species Known to Occur or with Potential to Occur on the Project Site**

Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFG	CNPS		
Greene's legenere <i>Legenere limosa</i>	–	–	1B	Vernal pools. Blooms April–June	Known to occur; three populations were documented on the project site during special-status plant surveys conducted at the project site in 2003 (ECORP Consulting 2003).
Pincushion navarretia <i>Navarretia meyersii</i> ssp. <i>Meyersii</i>	–	–	1B	Vernal pools. Blooms in May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP Consulting 2003).
Slender Orcutt grass <i>Orcuttia tenuis</i>	T	E	1B	Vernal pools. Blooms May–October	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 and 2006 (ECORP Consulting 2003, 2006).
Sacramento Orcutt grass <i>Orcuttia viscida</i>	E	E	1B	Vernal pools. Blooms April–July	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 and 2006 (ECORP Consulting 2003, 2006).
Sanford's arrowhead <i>Sagittaria sanfordii</i>	–	–	1B	Shallow freshwater marshes and swamps. Blooms May–October	Unlikely to occur; suitable habitat may be present in seasonal wetlands and ponds, but this species was not found during special-status plant surveys conducted at the project site in 2003 and 2006 (ECORP Consulting 2003, 2006).

Notes: CESA = California Endangered Species Act; CNPS = California Native Plant Society; DFG = California Department of Fish and Game; ESA = Endangered Species Act; USFWS = U.S. Fish and Wildlife Service

¹ Legal Status Definitions

U.S. Fish and Wildlife Service:

E Endangered (legally protected)

T Threatened (legally protected)

California Department of Fish and Game:

T Threatened (legally protected)

E Endangered

California Native Plant Society Categories:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

2 Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Sources: ECORP Consulting 2003, 2006; CNDDDB 2004; CNPS 2004; data compiled by EDAW in 2005

**Table 3.10-2
Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site**

Species	Listing Status ¹		Habitat	Potential for Occurrence
	Federal	State		
BIRDS				
Cooper's hawk <i>Accipiter cooperii</i>	–	SC	Forages in a variety of woodland and forest habitats	Likely to occur September to April but not expected to nest on-site
Sharp-shinned hawk <i>Accipiter striatus</i>	–	SC	Forages in woodlands; nests in dense coniferous and riparian forest	Likely to occur September to April but not expected to nest on-site
Tricolored blackbird <i>Agelaius tricolor</i>	–	SC	Forages in agricultural land and grasslands; nests in marshes and other areas that support cattails or dense thickets	Likely to occur year-round; suitable habitat present on-site
Short-eared owl <i>Asio flammeus</i>	–	SC	Forages and nests in grasslands and other open habitats	Likely to occur September to April; suitable habitat present on-site
Western burrowing owl <i>Athene cunicularia hypugea</i>	–	SC	Forages and nests in grasslands, agricultural land, and open woodlands	Likely to occur year-round; suitable habitat present on-site
Ferruginous hawk <i>Buteo regalis</i>	–	SC	Forages in grasslands, agricultural fields, and other open habitats; does not nest in California	Known to occur September to April; identified on-site during special-status wildlife surveys by EDAW biologists January 24, 2005
Swainson's hawk <i>Buteo swainsoni</i>	–	T	Forages in grasslands and agricultural land; nests in riparian and isolated trees	Likely to occur March to October; suitable nesting and foraging habitat present
Northern harrier <i>Circus cyaneus</i>	–	SC	Forages and nests in grasslands, marshes, and agricultural areas	Likely to occur year-round; suitable habitat present on-site
White-tailed kite <i>Elanus leucurus</i>	–	FP	Forages in grasslands and agricultural fields; nests in riparian zones, oak woodlands, and isolated trees	Known to occur year-round; identified on-site during special-status wildlife surveys by EDAW biologists January 12, 2005
Merlin <i>Falco columbarius</i>	–	SC	Forages in a variety of open habitats; does not nest in California	Likely to occur September to April; suitable foraging habitat present on-site
Prairie falcon <i>Falco mexicanus</i>	–	SC	Forages in grasslands and other dry, open habitats; nests on cliffs	Known to occur September to April; identified on-site by EDAW biologists January 24, 2005
Loggerhead shrike <i>Lanius ludovicianus</i>	–	SC	Forages and nests in grasslands, shrublands, and open woodlands	Likely to occur year-round; suitable habitat present on-site
MAMMALS				
American badger <i>Taxidea taxus</i>	–	SC	Drier open shrub, forest, and herbaceous habitats with friable soils	Could occur year-round; suitable habitat present on-site

**Table 3.10-2
Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site**

Species	Listing Status ¹		Habitat	Potential for Occurrence
	Federal	State		
AMPHIBIANS AND REPTILES				
California tiger salamander <i>Ambystoma californiense</i>	T	SC	Vernal pools and other seasonal ponds in valley and foothill grasslands	Unlikely to occur; suitable habitat present on-site but outside of species' known range (USFWS 2004)
Northwestern pond turtle <i>Clemmys marmorata marmorata</i>	–	SC	Freshwater marsh, ponds, lakes, and rivers	Unlikely to occur; no suitable habitat present on-site
Western spadefoot toad <i>Scaphiopus hammondi</i>	–	SC	Vernal pools and other seasonal ponds in valley and foothill grasslands	Likely to occur year-round; suitable habitat present on-site
Giant garter snake <i>Thamnophis gigas</i>	T	T	Freshwater marsh, sloughs, and slow-moving rivers	Unlikely to occur; no suitable habitat present on-site
INVERTEBRATES				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E	–	Large vernal pools in valley grasslands	Likely to occur; suitable habitat present on-site; within species range but not documented on-site during focused surveys (Gibson & Skordal 2000b, 2001)
Longhorn fairy shrimp <i>Branchinecta longiantenna</i>	E	–	Grassland vernal pools; endemic to the eastern margin of the Central Coast mountains in California	Unlikely to occur; outside of species' known range
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T	–	Vernal pools in valley and foothill grasslands	Known to occur; suitable habitat present; documented on-site during focused surveys (Gibson & Skordal 2000b, 2001)
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	–	Elderberry bushes below 3,000 feet in elevation	Likely to occur; suitable habitat present and beetle exit holes identified on-site during focused surveys (Gibson & Skordal 2000a)
Vernal pool tadpole shrimp <i>Lepidurus packardi</i>	E	–	Vernal pools in valley and foothill grasslands	Known to occur; suitable habitat present; documented on-site during focused surveys (Gibson & Skordal 2000b)

¹ Legal Status Definitions

Federal:

E Endangered (legally protected)

T Threatened (legally protected)

State:

T Threatened (legally protected)

SC Species of Special Concern (no formal protection)

FP Fully Protected (legally protected)

Sources: Gibson & Skordal 2000a, 2000b, 2001; CNDDDB 2004; USFWS 2004; data compiled by EDAW in 2005; Hansen, pers. comm, 2005

Special-Status Plants

Based on review of the CNDDDB and CNPS database searches, previously prepared biological reports for the project, and field surveys conducted by EDAW, it was determined that the project site supports suitable habitat for dwarf downingia, Tuolumne button-celery, Bogg's Lake hedge hyssop, Northern California black walnut, Ahart's dwarf rush, Greene's legenera, pincushion navarretia, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead. Brief descriptions of these species and their potential to occur at the project site are provided in Table 3.10-1.

Protocol-level special-status plant surveys of the project site were conducted on behalf of the applicant by ECORP Consulting during spring 2003; a late-season survey was also conducted in 2006. These surveys were conducted in accordance with the U.S. Fish and Wildlife Service's (USFWS's) *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*, as well as the guidelines contained in CNPS's *Inventory of Rare and Endangered Plants of California, Sixth Edition*. The results of protocol-level special-status plant surveys are typically considered valid by the resource agencies for a period of approximately 5 years, given that circumstances of the site can be assumed to remain largely unchanged during this amount of time.

During the protocol-level special-status plant surveys, ECORP Consulting biologists identified three populations of Greene's legenera (*Legenera limosa*) on the project site. Occurrences of Greene's legenera have also been documented in the CNDDDB for the project site. No other special-status plant species occurrences were identified on the project site during the ECORP Consulting survey or via searches of the CNDDDB and CNPS databases. Bogg's Lake hedge hyssop, Ahart's dwarf rush, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead have all been documented within 3 miles of the project site. These species are associated with vernal pools, seasonal wetlands, or freshwater marshes. Despite known occurrences off-site in the project vicinity and the presence of suitable habitat on-site, these species are not expected to occur on this project site at this time because they were not detected during a special-status protocol-level plant survey conducted during the appropriate blooming periods (ECORP Consulting 2003, 2006).

A tree survey conducted by Sierra Nevada Arborists (2003) identified Northern California black walnut, a CNPS List 1B species, at the project site. Although there are accounts of this species at the project site, native Northern California black walnut is believed to be extirpated from Sacramento County (CNPS 2001), and any specimens that have been identified may be hybrids between Northern California black walnut and another walnut species, such as English walnut (*Juglans regia*), Eastern black walnut (*J. nigra*), or Arizona walnut (*J. major*) (Kirk 2003, CNPS 1978). Specimens observed on the project site do not appear to be the species *Juglans hindsii* because they are branched from the base giving the trees a shrub-like appearance. *Juglans hindsii* does not typically form branches less than 9 feet above ground level (CNPS 1978). Only two native populations of *J. hindsii* are still in existence (in Napa and Contra Costa Counties), but the species has become widely naturalized in riparian areas throughout the Central Valley (Kirk 2003, CNPS 2001). Before 1850, black walnut was reported only from along the Sacramento River near Walnut Grove, Wooden Valley in Napa County, and in the Moraga area near Walnut Creek (Kirk 2003). In the 1860s settlers introduced Eastern black walnut and English walnut and began grafting these species onto the rootstocks of Northern California black walnuts by 1900. Hybrid species of *J. hindsii* are hardier than the native stock and genetic research suggests that naturalized populations of *J. hindsii* have a hybridized heritage and are not genetically pure *J. hindsii* (Kirk 2003).

Special-Status Wildlife

Based on review of the results of a search of DFG's CNDDDB, prior biological surveys conducted for the project site, and the reconnaissance-level survey conducted by EDAW, a list of special-status wildlife species with the potential to occur in the project area was compiled and is presented in Table 3.10-2. Several special-status wildlife species were identified on the project site during surveys performed by Gibson & Skordal and EDAW as noted in Table 3.10-2. On behalf of the project applicant(s), Gibson & Skordal conducted surveys of listed vernal pool

branchiopods on an approximately 1,800-acre portion of the approximately 3,828-acre project site during the wet seasons of 2000 and 2001 (Gibson & Skordal 2000b, 2001). The southern portion, including the grassland surrounding Morrison Creek, and the extreme eastern portion of the project site were not included in the surveys. Federally listed branchiopod species identified during the 2000 survey included vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardii*). Vernal pool fairy shrimp were identified in one seasonal depression and vernal pool tadpole shrimp were documented in three seasonal depressions and two seasonal ponds. California linderiella (*Linderiella occidentalis*), a federal species of concern, was also observed during the survey, documented from 83 of the survey pools including seasonal depressions, riparian wetlands, and pond habitats. Vernal pool fairy shrimp and California linderiella were again identified during the 2001 survey. The former was identified in only one seasonal depression while the latter was widespread in the survey area. The survey wetlands supporting vernal pool fairy shrimp and vernal pool tadpole shrimp are located in open grassland habitat adjacent to, but not within, the tailing piles (Gibson & Skordal 2000b).

An elderberry survey of the entire project site was also completed by Gibson & Skordal (2000a). Of the 329 elderberry plants documented, 41 contained beetle exit holes, suggesting that valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), a federally threatened species, exists on the project site. USFWS released a 5-year status review for VELB on October 2, 2006 (USFWS 2006), determining that this species is likely no longer in danger of extinction, and recommended that the species be delisted and removed from ESA protection. This recommendation is not a guarantee that the species will be delisted. Formal changes in the classification of listed species requires a separate USFWS rulemaking process distinct from the 5-year review. If VELB are removed from the ESA list, it will likely be more than 2 years before this decision is finalized.

EDAW wildlife biologists identified three additional special-status species on the project site during reconnaissance-level surveys conducted in support of this analysis. A white-tailed kite (*Elanus leucurus*), a federal species of concern and DFG fully protected species, was observed foraging in annual grassland near the center of the project site. A ferruginous hawk (*Buteo regalis*) and prairie falcon (*Falco mexicanus*), both federal and California species of concern, were observed in the southern portion of the site, in the vicinity of the proposed wetland preserve.

Special-status wildlife occurrences documented in the CNDDDB within a 3-mile radius of the project site, plotted onto an aerial photograph, are shown in Exhibit 3.10-2. Based on CNDDDB data, 17 special-status wildlife species in addition to those identified during surveys were evaluated for their potential to occur on the project site.

The project site provides suitable habitat for numerous special-status birds. Potentially suitable nesting and foraging habitat for Swainson's hawk, a species that is state listed as threatened, is present on the project site. Swainson's hawks nest in riparian and isolated trees and forage in grasslands and agricultural lands. Cooper's hawk, sharp-shinned hawk, tricolored blackbird, short-eared owl, and merlin could all potentially occur on the project site in the winter, as suitable foraging habitat is present. All of these species are California species of concern, and tricolored blackbird is also a federal species of concern. Cooper's hawk has been documented within 3 miles of the project site (Exhibit 3.10-2) (CNDDDB 2004). Although tricolored blackbird is known to nest in this region of Sacramento County, no suitable nesting habitat is present on the project site for this species, which typically nests in marsh habitat or blackberry thickets. Grasslands and open woodlands on the project site provide suitable year-round habitat for western burrowing owl, northern harrier, and loggerhead shrike. Northern harrier is a California species of concern. Western burrowing owl and loggerhead shrike are both federal and California species of concern. Although no burrows, burrowing owls, or signs of burrowing owls were observed during reconnaissance surveys, this species is identified in several locations within 3 miles of the project site in the CNDDDB and could move onto the project site before project implementation.

American badger, a California species of concern, prefers open grassland habitats with friable soils, and an occurrence slightly south of the project site is identified in the CNDDDB (Exhibit 3.10-2). Because there is suitable habitat for American badger on the project site, this species has the potential to occur on the site.

California tiger salamander was recently federally listed as threatened throughout its range (USFWS 2004). This species uses vernal pools and other seasonal ponds for reproduction, and seemingly suitable habitat of this type is present on the project site. However, few burrows or crevices have been identified on the project site that would provide suitable habitat for tiger salamander. In addition, this species is only known to occupy the southern edge of Sacramento County, south of the Cosumnes River (USFWS 2004). Because some of the essential habitat requirements for the species are scarce on the project site, such as underground refuge (crevices and burrows), and the project site appears to be outside of the species range, California tiger salamander is not expected to occur on the project site.

Western spadefoot toad is a federal and California species of concern also associated with vernal pools and other seasonal ponds. Multiple occurrences of western spadefoot toad south of the project site fall within the 3-mile radius shown in Exhibit 3.10-2. Given the presence of suitable habitat on the project site and the proximity of known occurrences of western spadefoot toad, this species may occur but has not been observed on the project site.

Northwestern pond turtle is a federal and California species of concern. Northwestern pond turtle could occur around Mather Lake, southwest of the project site, and is documented north of the site within 3 miles (Exhibit 3.10-2). However, there is no suitable aquatic habitat within the project boundary and pond turtles are unlikely to nest there.

Giant garter snake is federally and state listed as threatened. Giant garter snake is not expected to occur because adequate emergent vegetation required for foraging habitat is lacking on the project site and the wetlands on the project site are likely to dry up before the start of the species' active season (May 1–September 30). The nearest potentially suitable habitat for giant garter snake is Mather Lake, which is located approximately 0.5 mile downstream of the project site.

The seasonal wetland depressions, riparian wetlands, vernal pools, and seasonal ponds on the project site could support vernal pool crustaceans that were not identified during the branchiopod surveys. It is important to note that these surveys did not cover the entire project site (Gibson & Skordal 2000b, 2001). The existing wetland areas provide suitable habitat for federally endangered conservancy fairy shrimp and midvalley fairy shrimp, a federal species of concern. Midvalley fairy shrimp are documented in the CNDDDB as occurring near Mather Lake, slightly southwest of the project site and farther southwest of that point (Exhibit 3.10-2). Although longhorn fairy shrimp, a federally endangered species, was a target species of the branchiopod surveys (Gibson & Skordal 2000b, 2001), it is unlikely to occur on the project site because it is endemic to the eastern margin of the Central Coast mountains in California and has not been documented in Sacramento County (Eriksen and Belk 1999).

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the federal CWA, and the Porter-Cologne Act, as discussed under "Regulatory Framework" below. Sensitive natural habitat may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Many of these communities are tracked in DFG's CNDDDB, a statewide inventory of the locations and conditions of the state's rarest plant and animal taxa and vegetation types. Habitat types on the project site that would be considered sensitive by regulatory agencies include willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, cottonwood–willow riparian forest, vernal pools, seasonal wetland swales, and seasonal wetlands. In addition, the City requires mitigation for oak trees larger than 6 inches or greater dbh or multitrunk native oaks or native trees of 10 inches or greater dbh that have been determined to be in good health (refer to Mitigation Measure 3.10-3).

Wetlands and Other Waters of the United States

A wetland delineation conducted by ECORP Consulting in June 2004 and verified by USACE in September 2004 identified a total of 56.632 acres of waters of the United States, including wetlands, on the project site. The site also contains 12.946 acres of wetland habitats, which USACE determined to be nonnavigable, isolated, and intrastate waters with no apparent interstate commerce connection (nonjurisdictional). Although these wetland habitats are not subject to USACE jurisdiction under Section 404 of the CWA, they are considered “waters of the state” under California’s Porter-Cologne Act, and as such are subject to regulation by the Central Valley Regional Water Quality Control Board (RWQCB).

Wetlands on the project site that are subject to USACE jurisdiction include vernal pools, ponds, seasonal wetland swales, and seasonal wetlands. Other waters of the United States identified on the project site consist of seasonal drainages, including Morrison Creek. While these drainages have been described as ephemeral drainages in the wetland delineation and previous reports and maps, the term “seasonal drainages” is used in this analysis to account for the fact that data on the typical flow periods for Morrison Creek and other drainages are not available at this time and it is, therefore, not known whether these drainages would best be classified as ephemeral or intermittent drainages. The locations of wetlands and other waters of the United States, as mapped by ECORP Consulting, have been included in Exhibit 3.10-1. The vast majority of the vernal pools and seasonal wetland swales and all of the seasonal drainages are concentrated within the annual grassland habitat in the southern portion of the project site, where approximately 507 acres of habitat are designated as wetland preserve as part of the Proposed Project and High Density Alternatives. The areas designated as wetland preserve under the Proposed Project, High Density, and Impact Minimization Alternatives are depicted in Exhibits 2-4, 2-16, and 2-17, respectively.

Nonjurisdictional wetlands, including vernal pools, seasonal wetland swales, and seasonal wetlands, occur in scattered locations throughout the northern portion of the project site.

3.10.2 REGULATORY FRAMEWORK

Biological resources in California are protected and/or regulated by a variety of federal and state laws and policies. In addition, in many parts of California, there are local or regional habitat and species conservation planning efforts in which a project applicant may participate. Key regulatory and conservation planning issues applicable to the project and alternatives under consideration are discussed below.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Endangered Species Act

USFWS and the National Marine Fisheries Service (NMFS) have authority over projects that may result in take of a species listed as threatened or endangered under ESA (i.e., a federally listed species). In general, persons subject to ESA (including private parties) are prohibited from “taking” endangered or threatened fish and wildlife species on private property, and from “taking” endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under ESA, the definition of “take” is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has also interpreted the definition of “harm” to include significant habitat modification that could result in take. If a project would result in take of a federally listed species, either an incidental-take permit, under Section 10(a) of ESA, or a federal interagency consultation, under Section 7 of ESA, is required before the take can occur. Such a permit typically requires various types of mitigation to compensate for or minimize the take.

Section 404 of the Clean Water Act

Section 404 of the federal CWA establishes a requirement for a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into “waters of the United States,” including wetlands. Fill material means material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land; or changing the bottom elevation of any portion of a water of the United States. Examples of fill material include but are not limited to rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and material used to create any structure or infrastructure in waters of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Under Section 404 of the CWA, USACE regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fill of less than one-half acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE’s nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP or regional general permit require an individual permit.

Before USACE can issue a permit, it must determine that the project is in compliance with CWA Section 404(b)(1), for which the U.S. Environmental Protection Agency (EPA) has issued guidelines for assessing project alternatives. The Section 404(b)(1) guidelines specifically require that “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences” (Code of Federal Regulations [CFR] Title 40, Section 230.10[a] [40 CFR 230.10(a)]). Based on this provision, the applicant is required in every case to evaluate opportunities for use of nonaquatic areas and other aquatic sites that would result in less adverse impact on the aquatic ecosystem. A permit cannot be issued, therefore, in circumstances where a less environmentally damaging practicable alternative for the proposed discharge exists. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose determined by USACE. If it is otherwise a practicable alternative, an area not presently owned by the project applicant(s) that could reasonably be obtained, used, expanded, or managed to fulfill the basic purpose of the proposed activity may be considered.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in 50 CFR 10.13. The list includes nearly all birds native to the United States. Loss of nonnative species, such as house sparrows, European starlings, and rock pigeons, is not covered by this statute.

Executive Order 11990: Protection of Wetlands

Executive Order 11990 established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their

policies and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

Executive Order 11312: Invasive Species

Executive Order 11312 directs all federal agencies to prevent and control introductions of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversee and facilitate implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Endangered Species Act

Pursuant to CESA and Section 2081 of the California Fish and Game Code, a permit from DFG is required for projects that could result in the take of a state-listed threatened or endangered species (i.e., species listed under CESA), except that plants may be taken without a permit pursuant to the terms of the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFG under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by DFG, or use any material from the streambeds, without first notifying DFG of such activity and obtaining a final agreement authorizing such activity. “Stream” is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. DFG’s jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A DFG streambed alteration agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

Section 401 Water Quality Certification/Porter-Cologne Water Quality Control Act

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state’s water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine RWQCBs (regional boards). Each of the nine RWQCBs must prepare and periodically update basin plans for water quality control in accordance with the Porter-Cologne Act. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. Under the Porter-Cologne Act, wetlands and drainages that are considered waters of the United States by USACE are often classified as waters of the state as well.

More recently, the appropriate RWQCB has also generally taken jurisdiction over “waters of the state” that are not subject to USACE jurisdiction under the federal CWA, in cases where USACE has determined that certain features do not fall under its jurisdiction. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required.

California Fish and Game Code Section 3503.5 (Protection of Raptors)

Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations include destruction of active raptor nests as a result of tree removal and failure of nesting attempts, resulting in loss of eggs and/or young, because of disturbance of nesting pairs by nearby human activity.

California Department of Fish and Game Species Designations

DFG maintains an informal list of species called “species of special concern.” These are broadly defined as plant and wildlife species that are of concern to DFG because of population declines and restricted distributions, and/or because they are associated with habitats that are declining in California. These species are inventoried in the CNDDDB regardless of their legal status. Impacts on species of special concern may be considered significant.

California Native Plant Society Species Designations

CNPS is a statewide nonprofit organization that seeks to increase understanding of California’s native flora and to preserve this rich resource for future generations. CNPS has developed and maintains lists of plants of special concern in California as described above under “Special-Status Species.” CNPS listed species have no formal legal protection, but the values and importance of these lists are widely recognized. CNPS List 1 and 2 species are considered rare plants pursuant to Section 15380 of CEQA, and it is recommended that they be fully considered during preparation of environmental documents relating to CEQA. The Natural Resources Element of the City General Plan also recognizes CNPS listed species as species warranting special status.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

Rancho Cordova General Plan

Goals and policies of the City General Plan relating to biological resources that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix P of this Recirculated DEIR/Supplemental DEIS.

Proposed South Sacramento County Habitat Conservation Plan

The project site is located within the proposed South Sacramento County Habitat Conservation Plan (SSCHCP) area. The SSCHCP is intended to provide a regional approach to issues related to urban development, habitat conservation, agricultural production, and open-space planning (Sacramento County 2005). The SSCHCP would provide strategies to conserve habitat for nine special-status plants and 42 special-status wildlife species. The conservation strategy has four components: conservation (habitat acquisition), restoration, enhancement, and a limited amount of avoidance and minimization. If adopted, it would serve as a multispecies, multihabitat conservation plan addressing the biological impacts of future urban development within the Urban Services Boundary (USB) in the southern portion of the county. The emphasis of the SSCHCP is to secure large, interconnected blocks of habitat that focus on protecting intact subwatersheds while minimizing edge effects and maximizing heterogeneity. Habitat losses within the USB would be offset primarily through the establishment of large preserves outside the USB, but five major vernal pool preserves, including the proposed Rio del Oro preserve, would be established inside the USB as part of the SSCHCP. Habitat mitigation for impacts resulting from a particular project must take place on the same geological formation as the impacted area. As currently conceived, land developers that convert habitat within the USB would pay a defined per-acre fee to mitigate impacts. These fees would be used to protect, restore, maintain, and monitor habitat. The process for developing the SSCHCP was initiated in 1992. The SSCHCP is not scheduled for completion and implementation until late in 2010 or early 2011 (Radmacher, pers. comm., 2007).

3.10.3 ENVIRONMENTAL CONSEQUENCES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the State CEQA Guidelines and the provisions under 40 CFR 1508.27, as used under NEPA, define what constitutes a significant biological resources impact. Appendix G of the State CEQA Guidelines further defines what constitutes a significant biological resources impact. A biological resources impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- ▶ have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS;
- ▶ have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by DFG or USFWS;
- ▶ have a substantial adverse effect on federally protected waters of the United States, including wetlands, as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means;
- ▶ interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- ▶ conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- ▶ conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan;
- ▶ substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species; or
- ▶ result in a conversion of oak woodland that would have a significant effect on the environment.

ANALYSIS METHODOLOGY

This analysis of impacts on biological resources resulting from implementation of the proposed project and alternatives under consideration is based on data collected during reconnaissance-level field surveys, extensive review of existing documentation that addresses biological resources on or near the project site, geographic information systems (GIS) analysis, and data gathered during meetings with the project applicant(s)' biological resources consultant to discuss specific aspects of the proposed mitigation in detail.

Reconnaissance-level field surveys of the project site were conducted by EDAW biologists on December 13, 2004, and January 12 and 13, 2005. The purpose of these surveys was to characterize and map biological resources present on the project site in sufficient detail to support a determination of overall habitat quality. Data collected during the field surveys was compiled in a technical report (EDAW 2005) and used in the development of the Impact Minimization Alternative for this project.

The following documents were reviewed during preparation of this analysis:

- ▶ *Jurisdictional Delineation, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 1999);

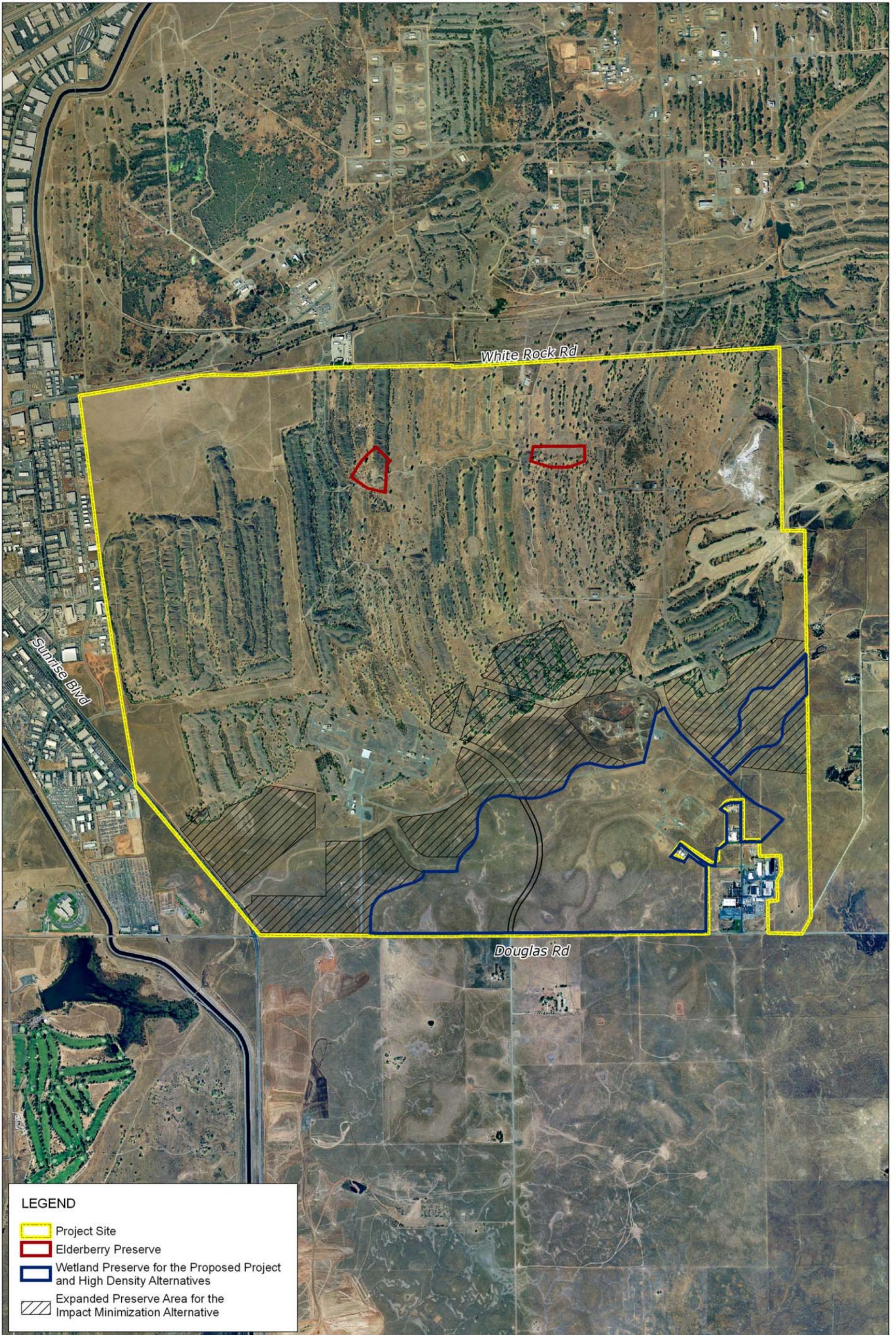
- ▶ *Wetland Delineation for Rio del Oro, Sacramento County, California* (ECORP Consulting 2004a);
- ▶ *Wetland Resource Assessment for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2004b);
- ▶ *Updated Wetland Delineation Map for the Rio del Oro Project Site* (ECORP Consulting 2004c);
- ▶ *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 2000a);
- ▶ *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson & Skordal 2000b, 2001);
- ▶ *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Rio del Oro Property* (ECORP Consulting 2003);
- ▶ *Late Season Special-Status Plant Survey for Rio del Oro, Sacramento County, California* (ECORP Consulting 2006);
- ▶ *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003);
- ▶ *Soil Investigation of Rio del Oro Wetlands Preserve prepared for ECORP Environmental Consultants* (Davis² Consulting Earth Scientists 2007);
- ▶ *Draft Wetland Mitigation Monitoring Plan for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2007a) (Appendix Q of this Recirculated DEIR/Supplemental DEIS); and
- ▶ *Draft Valley Elderberry Longhorn Beetle Mitigation Plan for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2007b) (Appendix R of this Recirculated DEIR/Supplemental DEIS).

The impact analysis for biological resources was performed at the project level for the entire Rio del Oro Specific Plan area (i.e., project site), because the Section 404 permit process for this project requires a detailed consideration of how the site could ultimately be subdivided. To the degree that subdivision boundaries could be revised in the future, they would need to be compared with the conclusions of this recirculated DEIR/ supplemental DEIS to determine whether impacts have been sufficiently covered.

The project includes the creation of a 507-acre wetland preserve in the southern portion of the project site and the establishment of two open-space preserves that would be used for elderberry mitigation (Exhibit 3.10-3). It also includes the creation of 197 acres of drainage parkways and open space and 39 acres of stormwater detention basins. The creation of the drainage parkway would entail alteration of the western portion of the current channel of Morrison Creek. The proposed drainage parkways would range from 200 feet to 300 feet in width and would consist of a meandering low-flow channel, adjacent wetlands, and riparian plantings (ECORP Consulting 2007a). Although development of the site would occur in distinct phases over time, ultimate buildout of the site would result in retention of little to no existing habitat in its current condition in those portions of the project site slated for urban development. Additionally, the scheduled closure and remediation of White Rock Dump Site No. 1, located within the open-space preserve, would also result in short-term loss of some existing habitat (i.e., elderberry shrubs) (ECORP Consulting 2005). The wetland preserve would be established before development of Phase 1 and the mitigation would occur as defined in the Section 404 permit. Compensatory mitigation would likely be tied to the various phases of development and would be phased in with project implementation.

IMPACT ANALYSIS

Effects that would occur as a result of implementation of each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP

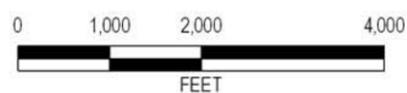


Source: EDAW 2005, Sacramento County 2002, ECRP Consulting 2004(b)

Proposed Preserves at the Rio del Oro Project Site

EXHIBIT 3.10-3

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
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(No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

The analysis of impacts was conducted following the thresholds provided in Appendix G of the State CEQA guidelines. Project impacts were assessed by comparing the postimplementation scenario of the project (and alternatives) with the existing conditions on-site as documented during various resource baseline studies and summarized above.

Impacts and Mitigation Measures

To provide a comprehensive approach to the impact analysis and ensure that impacts on resources of concern to more than one agency are discussed together, the impact analysis has been structured to include three broad impact categories: impacts on sensitive habitats, impacts on special-status wildlife, and impacts on special-status plants.

The evaluation of impacts on sensitive habitats incorporates both quantitative and qualitative aspects. Impacts were evaluated by calculating the acreage of each sensitive habitat by land use designation. It is assumed that development in areas that would require grading would result in the elimination of all wetland and other sensitive habitats within that land use designation. Therefore, the only land use designations that would be expected to afford some level of protection for wetland and other sensitive habitats are Wetland Preserve and Open Space/ Preserve (see Exhibit 3.10-3). Sensitive habitats that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative are vernal pool, pond, seasonal wetland and seasonal wetland swale, seasonal drainage, willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, cottonwood–willow riparian forest, and oak woodland. Implementation of the Impact Minimization Alternative would also affect these sensitive habitats, but to a lesser degree than implementation of the Proposed Project Alternative or the High Density Alternative, as discussed below.

Impacts associated with the off-site improvement of infrastructure aspects of the Proposed Project Alternative and all other project alternatives are discussed in Section 3.5, “Utilities and Service Systems” of the 2006 DEIR/DEIS and have been addressed in previous CEQA documents. Off-site impacts associated with traffic improvements are discussed in Section 3.14, “Traffic and Transportation” of the 2006 DEIR/DEIS and have been addressed in the environmental document for the City General Plan, prepared separately from this Recirculated DEIR/Supplemental DEIS. The City General Plan was adopted on June 26, 2006.

IMPACT 3.10-1

Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State. *Implementation of the project would result in the placement of fill material into jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the federal Clean Water Act, and the substantial loss and degradation of nonjurisdictional wetland habitats protected under state and local regulations. Wetlands and other waters of the United States that would be affected by project implementation include vernal pools, seasonal wetland swales, ponds, and seasonal drainages.*

PP, HD

Overall Effects on Jurisdictional Waters of the United States

A total of approximately 27.9 acres of USACE jurisdictional waters of the United States on the project site would be filled, including approximately 15.1 acres of vernal pools, 2.9 acres of pond, 3.6 acres of seasonal wetland swale, 3.1 acres of seasonal wetland, and 3.3 acres of seasonal drainages, including portions of Morrison Creek. In addition, the project would result in indirect impacts on approximately 2.2 acres of vernal pool habitat (assuming that all habitats within 250 feet of development are considered to be affected). The acreage numbers have changed slightly from the 2006 DEIR/DEIS because the 2.2 acres of vernal pool habitat that would be indirectly affected by project implementation were erroneously added twice in the acreage calculation for that document. The wetland preserve has been configured to minimize the alteration of hydrology to preserved vernal pools by maintaining a 250-foot buffer around

existing pools (ECORP Consulting 2007a) and maintaining sufficient microwatersheds to support both preserved and created vernal pools and wetland features.

The Proposed Project and High Density Alternatives would also result in the permanent loss of approximately 12.9 acres of nonjurisdictional wetlands, consisting of vernal pools, seasonal wetlands, and seasonal wetland swales. Although these wetlands are not subject to USACE jurisdiction, they are considered sensitive because they provide potential habitat for the federally listed vernal pool fairy shrimp and vernal pool tadpole shrimp and special-status plant species, provide important ecological values and functions, and are considered waters of the state subject to jurisdiction of the Central Valley RWQCB under the Porter-Cologne Act. Most of the wetlands over which USACE has disclaimed jurisdiction are not considered to support listed species (Gibson & Skordal 2000b, 2001). Seasonal wetlands are also protected under the Natural Resources Element of the City General Plan, which requires no net loss of vernal pools and other wetland habitats, acreage, values, and/or functions.

Vernal Pools and Other Wetland Habitats within the Proposed Wetland Preserve

Although a substantial loss of wetlands would occur, a portion of the highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would be protected within the proposed 507-acre designated Wetland Preserve. The proposed wetland preserve would connect to the agency-proposed conservation area identified in *A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area* (Foothill Associates and ECORP Consulting, June 2004) adjacent to the east of the project site, just north of the proposed North Douglas Road. The Rio del Oro project site itself is outside the boundaries of the conceptual-level strategy. There are no other connections to preserves in the region, and there are no other opportunities for connections to other planned or existing preserves. The conceptual-level strategy does not propose any other preserves adjacent to the Rio del Oro project site other than the one to the east, nor does the City General Plan show other planned preserves in adjacent areas. Approved development plans to the south of Douglas Road do not include preserve areas that could connect to the proposed Rio del Oro Wetland Preserve, and adjacent land to the west is already built out. Although preserves have been established or are proposed for developments to the south, such as the Anatolia projects, and these preserves include vernal pool habitat supporting federally listed vernal pool fairy shrimp, they are isolated from the Rio del Oro project site by residential and commercial development. Lack of connectivity between habitat on the project site and adjacent habitats is an existing condition because White Rock Road, Douglas Road, and Sunrise Boulevard bound the project site on its north, south, and west sides, respectively. The connection to Morrison Creek to the southwest of the project site would be maintained. There are no existing or proposed habitat preserves to the north of the project site. Vernal pools and other wetland habitat types within the wetland preserve and on adjacent parcels could be adversely affected by the effects of habitat fragmentation and resulting indirect impacts, including those resulting from the proposed construction of 17.9 acres of vernal pools (plus 2 acres for mitigation of vernal pools not under USACE jurisdiction) proposed as part of the project applicant(s)' wetland mitigation monitoring plan (MMP) for this project (ECORP Consulting 2005). However, within the on-site preserve, hydrologic modeling analysis shows that creation of compensatory wetlands would not adversely affect existing wetlands. The current version of the project applicant(s)' proposed wetland MMP developed by ECORP Consulting, which will be subject to USACE approval, is included in Appendix Q of this Recirculated DEIR/Supplemental DEIS. Appendix Q includes the hydrologic modeling analysis. The MMP is a revised draft plan proposed by the project applicant and is subject to review and approval by the regulatory agencies before adoption.

Habitat fragmentation can result when development occurs within larger regions of natural habitat. The effects of habitat fragmentation can extend beyond the boundaries of an area proposed for development. Changes to the hydrologic pattern, including fragmentation of Morrison Creek, under the Proposed Project Alternative or High Density Alternative could adversely affect the wetlands within the wetland preserve and other off-site wetlands by altering hydration periods. Construction of the proposed extension of Rancho Cordova Parkway and other roadway improvements could disrupt or eliminate hydrologic connectivity that is important to support vernal pools and the plant and wildlife species that inhabit the pools. However, a hydrologic modeling analysis conducted for the proposed preserve using ArcGIS software tools and a Light Detection and Ranging (LiDAR) derived, fine-scale topographic model indicates that construction of Rancho Cordova Parkway and Americanos Boulevard would not jeopardize the hydrological integrity of vernal pools in the preserve because microwatersheds would be maintained, as described below. The hydrologic analysis also indicates that hydration periods within the preserve would not be altered because on-site microwatersheds would be maintained. Most storm drainage and summer runoff would be captured in drainage corridors and released into Morrison Creek downstream of the vernal pool preserve (two exceptions are discussed below) and proposed contours would slope away from the preserve beginning at the preserve boundary. The proposed construction design includes measures to reduce interference with the hydrology that sustains vernal pools on-site, including the use of con-span bridge systems (Exhibits 2-7 and 2-8 in the 2006 DEIR/DEIS) as natural substrate span crossings over Morrison Creek. Rancho Cordova Parkway and Americanos Boulevard would cross Morrison Creek with a clear span of the delineated wetlands within the channel bank. These natural substrate span crossings would be sized to provide for wildlife movement (including invertebrate species that occur in the preserve) and minimize habitat fragmentation. Bridge design would include a large enough span area to provide movement corridors for terrestrial wildlife even during high flows (i.e., the entire span would not be inundated).

The proposed residential development would include various design features characteristic of low-impact development, including water quality ponds, and retention or detention ponds for water quality, peak flow control, and volume control outside of the preserve. There are two instances where storm drainage and nuisance flows would be released within the preserve. One is at Rancho Cordova Parkway, where some runoff would drain into a vegetated water quality swale that would be constructed adjacent to the road within the preserve; treated water would be discharged from the water quality swale into the preserve (Exhibit 3.10-4). The second exception would occur adjacent to the east of Americanos Boulevard, where storm drainage and nuisance flows from a single-family residential area would be directed into a water quality basin, treated, and subsequently discharged into Morrison Creek at the upstream end of the preserve (Exhibit 3.10-5). The watershed analysis for the project indicates that the peak flows, runoff volumes, and runoff durations of the wetland preserve area would not be substantially altered because the residential area is relatively small in relationship to this watershed; because the project would modify only 3% of the 1,830-acre watershed; and because low-impact development features, water quality ponds, and retention/detention ponds required by the local agencies would be incorporated into the project. All water quality treatment basins and swales would be designed to the standards of the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* (Sacramento Stormwater Quality Partnership 2007).

The project is designed to direct flows to the drainage corridors that would be created throughout the project site. These drainage corridors include water quality treatment swales and basins to treat stormwater and nuisance flows before they are released into the proposed low-flow channels and adjacent wetland habitat that would be created. Increased flows caused by an increase in impervious surfaces would be directed to these drainage corridors and would not enter Morrison Creek anywhere within or upstream of the proposed vernal pool preserve, with the two exceptions noted previously for the Rancho Cordova Parkway bioswale and the water quality

basin adjacent to the east of Americanos Boulevard. The portion of Morrison Creek that would receive increased runoff from the project drainage channels is downstream of the vernal pool preserve. The on-site vernal pool preserve would not receive any nuisance flows. The applicant proposes to construct detention basins to attenuate runoff flows to predevelopment levels. Because detention basins have been incorporated into the project design, peak flow rates would not increase; therefore, the inundation area would not change from preproject levels. Urban runoff would be treated as required by state and local and state stormwater quality standards in the detention basins and drainage channels proposed to be constructed within the project site. Incorporation of low-impact development features, along with the required water quality features, would aid in reducing flows to near natural conditions.

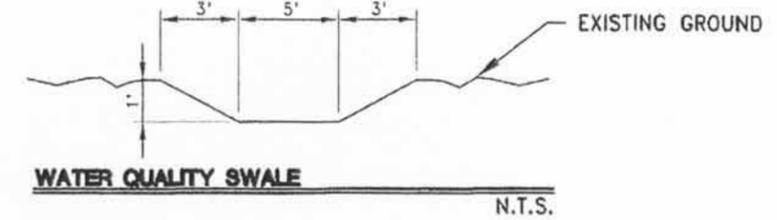
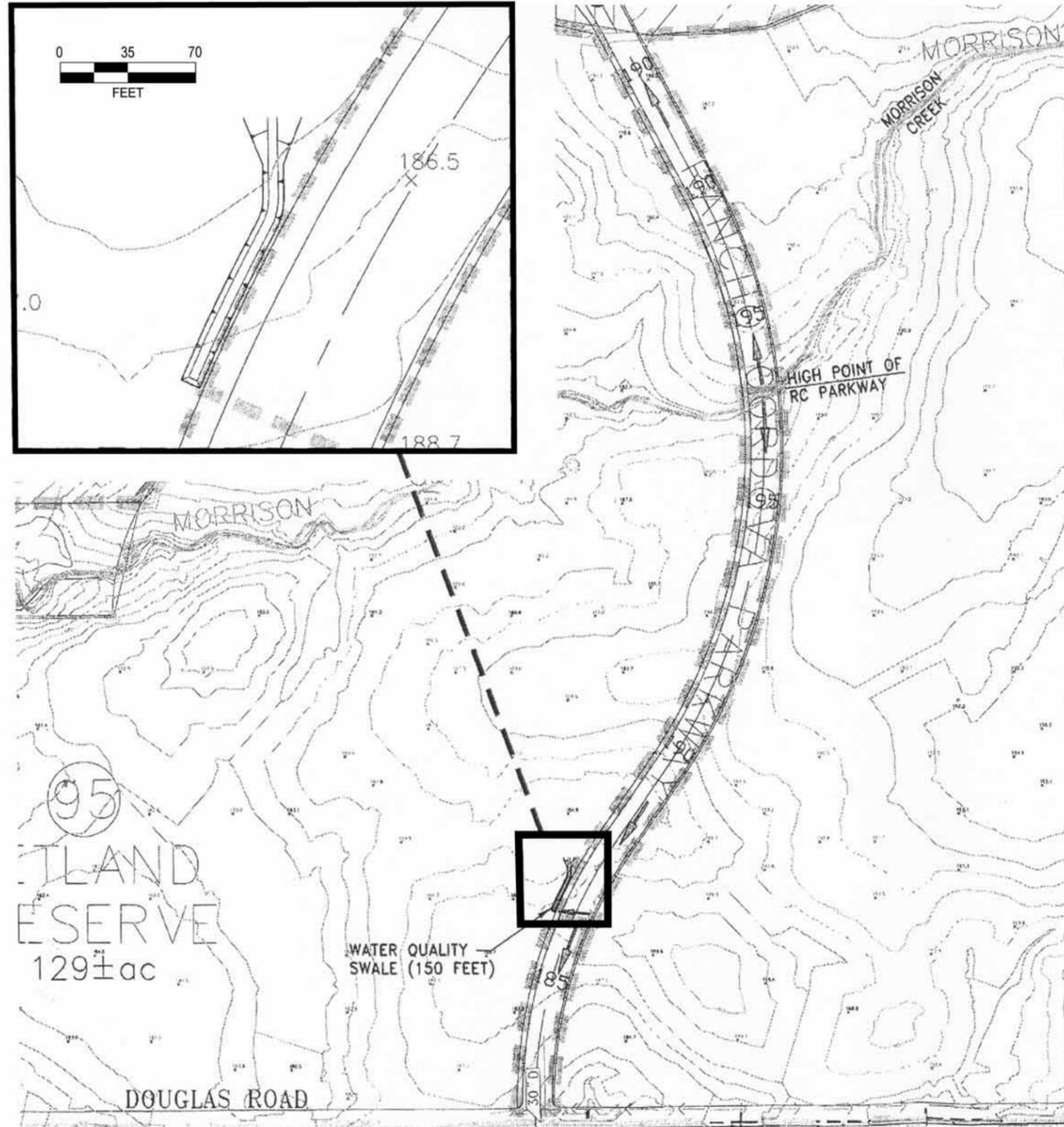
The current depth to groundwater typically ranges between 50 feet and 160 feet below the current ground surface (ERM 2003). Groundwater levels underneath the project site are expected to be 6 feet higher in the long term when compared with current conditions as a result of implementing the Proposed Project Alternative (WRIME 2005). Based on the hydrological evaluations described in Chapter 3.4, "Hydrology and Water Quality," of the 2006 DEIR/DEIS, these estimated changes in the depth to groundwater would be minimal and well within the existing range of natural seasonal variations. Furthermore, there would not be an appreciable change in hydrogeologic variables such as groundwater flow or direction.

Mitigation Monitoring Plan

To reduce adverse effects on the aquatic environment, the project applicant(s) would need to implement an MMP approved by USACE, the Central Valley RWQCB, and the City. Each of these agencies would have to review and approve those portions of the MMP relevant to wetlands subject to their respective regulatory authorities.

A revised draft wetland MMP was developed by ECORP Consulting in September 2007 and is the applicant's proposed mitigation plan (ECORP Consulting 2007a). The revised draft MMP, included in Appendix Q to this document, is subject to review and approval by the appropriate regulatory agencies. Proposed mitigation in the revised draft MMP includes a combination of on-site preservation and compensatory mitigation (i.e., vernal pool creation), as well as off-site mitigation through purchase of the Cook Property (described below) and credit purchase in the Clay Station Mitigation Bank. Proposed on-site mitigation consists of designation of a 507-acre wetland preserve in the southern portion of the project site. A total of 20.4 acres of existing vernal pools are located in the proposed preserve, and restoration and creation of an additional 17.9 acres would occur in the preserve under the proposed MMP. The proposed preserve also contains 2.5 acres of seasonal wetland swale, 3.4 acres of seasonal wetland, 0.6 acre of pond, and 1.9 acres of ephemeral drainage. All of these features, as well as that portion of Morrison Creek that is within the 507-acre wetland preserve, would be preserved. The details of the MMP are still being reviewed by USACE; the September 2007 draft is not the final, approved version. In compliance with City General Plan Policies, the wetland preserve would include wildlife-passable boundary fencing, and informational signage or kiosks would be erected along trails outside the preserve boundary to educate the public about the importance and benefit of wetlands.

The 160-acre Cook Property is proposed by the project applicants for off-site mitigation involving preservation and no creation of naturally existing vernal pool and seasonal wetland habitat within the same core recovery area (i.e., the Mather Core Recovery Area as depicted in the vernal pool recovery plan [USFWS 2006]) as the Rio del Oro property. The Cook Property is bordered to the north and west by conservation properties, to the east by Eagles Nest Road, and to the south by Florin Road. The Cook Property is contiguous with a large conservation area that



NOTES:

1. HIGHPOINT OF RANCHO CORDOVA PARKWAY WILL BE LOCATED ABOVE MORRISON CREEK.
2. STORM WATER FROM RC PARKWAY SOUTH OF MORRISON CREEK WILL DRAIN TO A LOCATION APPROXIMATELY 1200 FT SOUTH OF MORRISON CREEK TO A WATER QUALITY SWALE, AND THEN DISCHARGED INTO THE PRESERVE. THE SWALE SHALL BE AT A SLOPE OF 1% AND BE 132 FEET MINIMUM.
3. STORM WATER FROM RC PARKWAY NORTH OF MORRISON CREEK WILL DRAIN NORTH INTO THE ONSITE DRAINAGE SYSTEM.
4. APPROXIMATELY 500 FT OF RC PARKWAY WILL DRAIN SOUTH TO EXISTING FACILITIES IN DOUGLAS ROAD.
5. THE WATER QUALITY SWALE SHALL BE DESIGNED PER THE STORMWATER QUALITY DESIGN MANUAL FOR THE SACRAMENTO & SOUTH PLACER REGIONS.
6. STORM WATER WILL BE TRANSPORTED TO THE WATER QUALITY SWALE VIA STORM DRAIN PIPES WITHIN RANCHO CORDOVA PARKWAY.

LEGEND

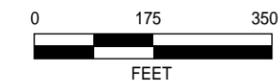
- ➔ Direction of Flow
- ▬▬▬▬▬ Shed Boundary

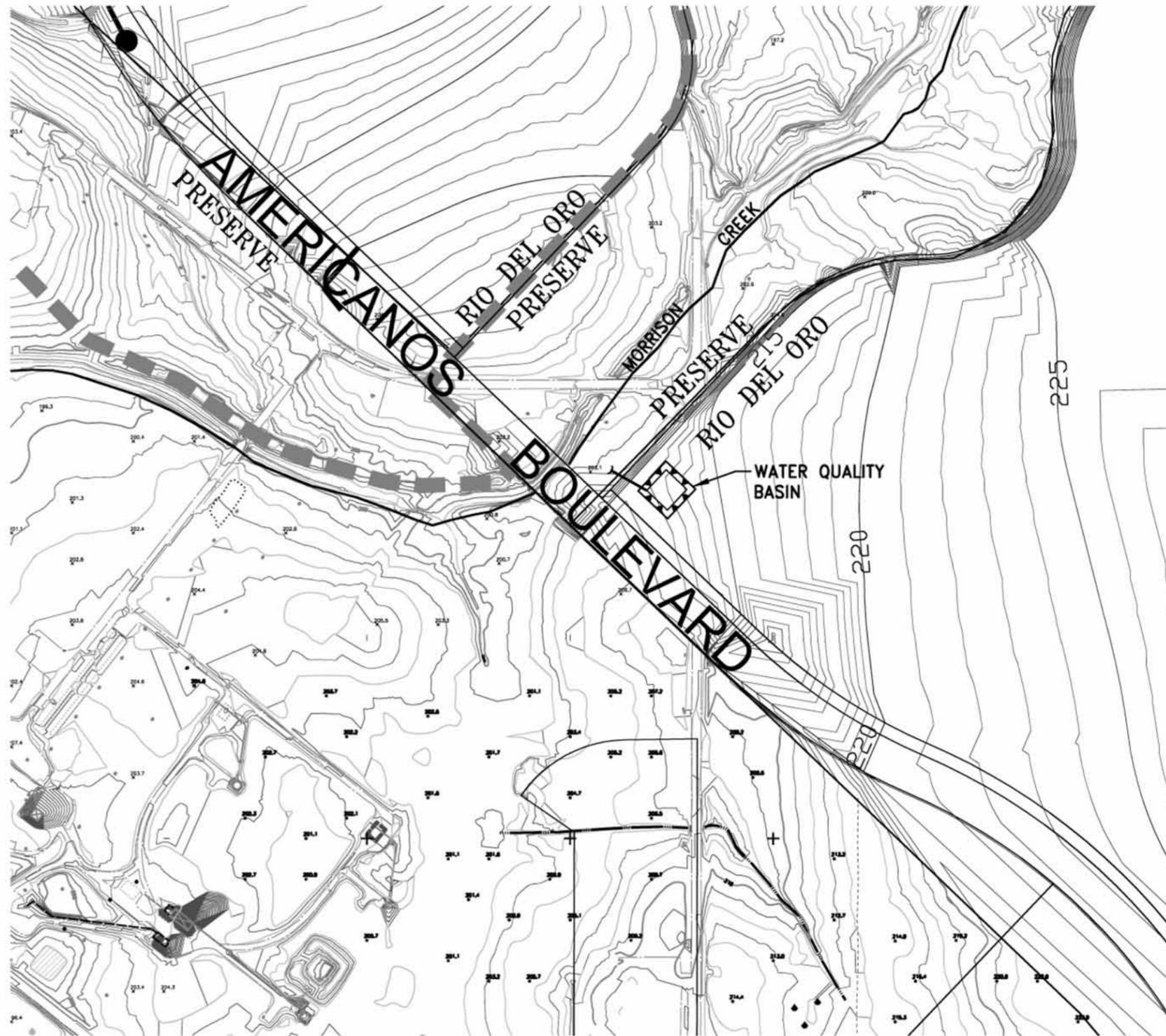
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Source: Wood Rogers 2007

Drainage Flows from Rancho Cordova Parkway

EXHIBIT 3.10-4





NOTES:

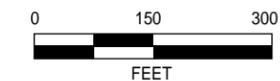
1. NUISANCE FLOWS WILL BE DIRECTED TO A WATER QUALITY BASIN BEFORE DRAINING INTO MORRISON CREEK.
2. STORM EVENTS WILL BE DIRECTED INTO THE WATER QUALITY BASIN BEFORE DRAINING INTO MORRISON CREEK.
3. THE WATER QUALITY BASIN SHALL BE DESIGNED PER THE STORMWATER QUALITY DESIGN MANUAL FOR THE SACRAMENTO & SOUTH PLACER REGIONS.

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Source: Wood Rogers 2007

Drainage to Water Quality Basin at Americanos Boulevard

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EDAW

provides connectivity to other vernal pool grassland habitat that currently supports listed branchiopod crustaceans. The Cook Property contains 22.3 acres of wetland habitat, including 15.2 acres of vernal pools, seasonal marsh, and seasonal wetland swales and 0.58 acre of intermittent drainage (Frye Creek). Protocol-level branchiopod surveys have not been conducted on the Cook Property; however, it is likely that the vernal pools support vernal pool branchiopod crustaceans. Surveys in the immediate vicinity of the Cook Property have identified vernal pool fairy shrimp (*Branchinecta lynchi*), mid-valley fairy shrimp (*B. mesovallensis*), vernal pool tadpole shrimp (*Lepidurus packardii*), and California fairy shrimp (*Linderiella occidentalis*).

An additional 13 acres of created seasonal wetland habitat are proposed to be purchased at the Clay Station Mitigation Bank. The Clay Station Mitigation Bank is located approximately 15 miles south of the project site and is bounded by Clay Station Road to the east, Laguna Creek and associated riparian habitat to the west, farmland to the north, and Brown's Creek to the south. Clay Station is adjacent to other large preserves, such as Gill Ranch, that provide habitat connectivity to a larger preserve area. The wetland habitat that would be purchased at the Clay Station Mitigation Bank has been monitored for several years and is fully functioning (ECORP Consulting 2000, 2004d). These created wetlands exhibit functions and values similar to those of the wetland habitat to be affected at the project site. In addition, these wetlands currently support vernal pool fairy shrimp and tadpole shrimp (ECORP Consulting 2004d, 2007a). Both the Cook Property and Clay Station Mitigation Bank are currently owned by one of the project applicants (i.e., Elliott Homes) and in its control (ECORP Consulting 2007a).

Table 3.10-3 provides a summary of wetland impacts and proposed mitigation acreage as provided in the draft MMP (Appendix Q), which has not been approved by the regulatory agencies. Project impacts include direct fill of 27.9 acres of jurisdictional waters of the United States, including wetlands; direct fill of 12.9 acres of isolated wetlands; and indirect effects on 2.2 acres of USACE jurisdictional wetlands. The draft MMP proposes to preserve 28.7 acres of waters of the United States, including wetlands, on-site and 22.3 acres of wetlands and waters of the United States off-site at the Cook Property. This would result in a preservation ratio of 1.25:1. The draft MMP also proposes to create and restore 47.0 acres of wetlands and low-flow channel on-site and provide 13 acres of created seasonal wetland purchased at the Clay Station Mitigation Bank. If approved by the regulatory agencies, this plan would result in a compensatory mitigation ratio of 1.5:1 of acres created or restored to acres filled and would ensure no net loss in the amount of wetland habitat in the region.

The project applicant(s) would be required to begin construction of the mitigation habitats, in accordance with the MMP (when a final version has been approved by the appropriate regulatory oversight agencies), before the start of ground-disturbing activities that would adversely affect wetlands. Compensatory mitigation would likely continue to be constructed over time, as the various phases of the project affecting the aquatic environment are approved and move forward, and as specified in the MMP (when a final version has been approved). However, a temporal loss of aquatic functions is still expected to occur under the proposed MMP, as impacts on aquatic resources in some of the phases could occur before creation of some of the compensatory wetlands are created and before all of the created mitigation habitats reach their final success criteria and assume their full intended ecological functions. The applicant has purchased credits at the Clay Station Mitigation Bank to offset these temporal losses. The seasonal wetland habitat purchased at the Clay Station Mitigation Bank is fully functional and has met success criteria to be approved for sale by the Mitigation Banking Review Team.

A hydrologic analysis of the topography of the proposed on-site preserve area was conducted to establish the preserve boundary, using hydrologic modeling tools in ESRI's ArcGIS software and a LiDAR-derived topographic model of the project site. The analysis maintained a buffer of 250

feet to the proposed development and maintained the watersheds necessary to support preserved habitat. Using the LiDAR technology, biologists, hydrogeomorphologists, and GIS technicians from ECORP Consulting mapped the microwatersheds of vernal pools and other wetlands within the proposed on-site preserve area. It was determined that the mean watershed size required for each acre of vernal pool at the project site is approximately 7.14 acres.

Table 3.10-3 Summary of Wetland Impacts and Proposed Mitigation Acreage									
Wetland Type	Existing Acres	Isolated Acres	Impacts			On-site Preservation Acres ¹	On-site Creation Acres ²	Off-site Preservation Acres ³	Off-site Creation Acres ⁴
			Direct		Indirect				
			Jurisdictional Acres	Isolated Acres	Jurisdictional Acres				
Vernal pool	35.485	2.414	15.072	2.414	2.179	20.413	17.867	2.67	0
Pond	3.54	0.721	2.924	0.721	0	0.616	0	6.51	0
Seasonal wetland swale	6.044	0.653	3.587	0.653	0	2.457	0	0	0
Seasonal wetland	6.418	9.158	3.064	9.158	0	3.354	20.785	12.53	13
Ephemeral drainages	5.145	0	3.256	0	0	1.889	0	0.58	0
Channel/low-flow	0	0	0	0	0	0	8.402	0	0
Total	56.632	12.946	27.903	12.946	2.179	28.729	47.054	22.29	13
Total Impact:	43.028	12.946							
Total Preservation:	51.019	1.19:1							
Total Compensation:	60.054	1.40:1							

Notes:
¹ Within 507 acres of on-site wetland preserve.
² Vernal pool habitat is proposed within a 507-acre wetland preserve and all other habitat is proposed within drainage corridors.
³ Preliminary Assessment of wetland acreage to be preserved off-site at the Cook Property.
⁴ Seasonal wetland habitat to be purchased at a bank to replace mitigation previously proposed within detention basins that are no longer feasible.
Source: ECORP Consulting 2007a.

The hydrologic analysis suggests that project implementation would not decrease the watershed ratios below levels necessary to sustain existing depressional wetlands or the proposed 17.9 acres of compensatory vernal pools. According to the model, the proposed on-site wetland preserve could accommodate and support an additional 50 acres of vernal pool habitat without compromising the existing hydrology. In addition, soil analyses conducted by Davis² Consulting Earth Scientists indicate that soils on the site are still conducive to formation of vernal pools. Historic aerial photography of the project site shows the presence of vernal pools within the preserve area that are no longer visible and functioning on the site as a result of past land uses. Wetlands northwest of Security Park were filled between 1961 and 1971 as part of the

footprints of these previously existing vernal pools whenever possible without compromising the minimum watershed of existing vernal pools. Further GIS analysis of LiDAR-derived topography, review of historic aerial topography, and results of the soil analyses would be used to refine the configuration of the compensatory wetlands to ensure that each wetland feature would contain an adequate watershed and that proposed wetlands would not compromise the microwatersheds of existing individual vernal pools. This strategy would provide optimal siting of compensatory pools and maximize the potential for successful creation.

The GIS watershed analysis of the LiDAR-derived topographic model indicates that the proposed construction of Rancho Cordova Parkway through the wetland preserve would not compromise the watershed of any vernal pool to the point that it would not retain a watershed/wetland acreage ratio of 7.14:1, with the exception of one small vernal pool (0.053 acre). Although the mean watershed ratio for all vernal pools was calculated at 7.14:1, further analysis shows that wetlands of this size class require a watershed ratio of approximately 3.26:1. The proposed alignment of Rancho Cordova Parkway maintains a watershed ratio of 6.62:1 for this particular pool and greater than 7.14:1 for all other pools downstream of the road; therefore, the alignment of Rancho Cordova Parkway should not adversely affect existing or proposed vernal pool habitat.

The draft operations and management (O&M) plan for the wetland preserve prepared by ECORP Consulting (2007c) establishes monitoring requirements for wetlands in the preserve area. Specific performance standards and success criteria, as agreed upon by the regulatory agencies, shall be specified in the MMP, once approved by the agencies. The draft O&M plan for the proposed wetland preserve states that biological inspections of the preserve would be performed by the monitoring biologist three times per year. Monitoring would include specific aspects of the preserve habitat as well as general wetland function, thatch accumulation, newly introduced invasive species, overall wetland preserve function, and potentially the grazing regime. The first inspection would focus on the hydrology and the presence of listed vernal pool crustaceans. The second inspection would focus on the different wetland habitats during the floristic season; the third inspection would look at the upland, problem areas, grazing regime, and the success of restoration efforts. General inspections should be arranged by the preserve manager to evaluate erosion, fire hazard reduction, fencing integrity, condition of signage, trash accumulation, and evidence of unauthorized use by motor vehicles. The monitoring biologist, along with the preserve manager, would prepare and submit an annual report to the preserve owner, USACE, and USFWS by December 31 of each year. The holder of the conservation easement would be identified during the processing of the CWA Section 404(b)(1) permit and through negotiation of an incidental take statement from USFWS. Elliott Homes has preliminarily contacted several preserve managers, including the Sacramento Valley Open Space Conservancy (Rutledge, undated pers. comm.), regarding management of the proposed preserve.

The draft O&M plan prepared by ECORP Consulting (2007c) for the proposed open space corridors requires that biological inspections be conducted two times per year to ensure that existing conditions are maintained in perpetuity. Each biological inspection should monitor habitat function, thatch accumulation, presence of invasive species, and function of the open space preserve. General inspections should be arranged by the preserve manager to evaluate erosion, fire hazard reduction, fencing integrity, condition of signage, trash accumulation, and evidence of unauthorized use by motor vehicles. The monitoring biologist, along with the preserve manager, would prepare and submit an annual report to the preserve owner, USACE, and USFWS by December 31 of each year.

After implementation of the MMP, long-term ownership of the proposed wetland preserve may be assumed by the City, the Sacramento Valley Conservancy, the Wildlife Heritage Foundation, or another mutually agreeable third-party organization. Management of the preserve would be

conducted by a USACE-approved conservation-oriented organization in accordance with a USACE-approved conservation easement and operations and management plan. The project applicant(s) would be required to establish an endowment or some other financial mechanism that is sufficient to fund management of the preserve in perpetuity.

Once a wetland MMP is approved by those agencies with jurisdiction over the plan, or portions of the plan (i.e., USACE, the Central Valley RWQCB, the City), successful implementation of the plan is expected to compensate for adverse effects on waters of the United States (30.328 acres), on natural wetland resources as required by the Natural Resources Element of the City General Plan, and on nonjurisdictional wetlands, as required by the Central Valley RWQCB. As currently proposed, not all of the mitigation is directly in kind (i.e., 1 acre of a certain habitat created for 1 acre of the same type of habitat eliminated). To obtain USACE approval, the project applicant(s) would need to revise their mitigation proposal to include the creation or restoration of in-kind aquatic habitats at a sufficient ratio of created to affected aquatic habitat to offset the functions and values of the aquatic environment that would be lost initially and over time as a result of the project. The proposed mitigation ratio would also need to contain an adequate margin of safety to reflect anticipated success rates of created and restored aquatic habitats and to offset temporal loss of habitat functions. Given the substantial amount of wetland loss (approximately 36.8 acres [23.9 acres jurisdictional wetlands and 12.9 acres nonjurisdictional wetlands] of direct impacts and 2.2 acres of indirect impacts), these impacts would remain significant, as they would contribute to the overall loss and alteration of naturally occurring vernal pool habitat in the county.

Consistency with the City General Plan

An analysis of the Proposed Project's consistency with applicable goals and policies in the City General Plan was provided in Appendix F of the 2006 Draft EIR/EIS. The analysis for goals and policies in the Natural Resources Element is supplemented and set forth in a new Appendix P attached to this Recirculated DEIR/Supplemental DEIS.

The following discussion supplements the analysis in new Appendix P to address the proposed Project's consistency with General Plan Actions NR 1.1.3 and NR 1.7.1 in light of the Superior Court's interpretation of these General Plan Actions in its decision in *California Native Plant Society v. City of Rancho Cordova* (Case No. 06 CS 01311) (Preserve decision). The analysis of General Plan consistency in this document is in compliance with the requirements of CEQA. The City Council will adopt findings of General Plan consistency for the Proposed Project as part of any project approval in accordance with the standards under state law.

In *California Native Plant Society v. City of Rancho Cordova*, the California Native Plant Society challenged the City's certification of an environmental impact report for its approval of the "Preserve at Sunridge" project ("the Preserve Project"), which is part of the Sunrise Douglas Community Plan, claiming that the Preserve Project was inconsistent with Actions NR 1.1.3 and NR 1.7.1. The trial court ruled that substantial evidence did not support the City's findings of General Plan consistency for the Preserve Project. For the Preserve Project, the City Council made General Plan consistency findings for the project, generally. But, the Council did not interpret or make specific General Plan consistency findings on these two Actions. The City does not agree with the trial court's interpretation of City policies. The City and Real Parties have appealed the trial court decision. The appeal is pending.

The facts supporting consistency of the Proposed Project with Actions NR.1.1.3 and NR 1.7.1 are set forth in Appendix P. However, under the reasoning and interpretation in the Preserve decision, the Proposed Project may be found potentially inconsistent with these policies. For the

purposes of full disclosure under CEQA, the potential inconsistency of the Proposed Project with these policies under the Preserve decision's interpretation (which the City disputes) is included in this document, since the case is pending. The following facts are identified as grounds for potential inconsistency of the Proposed Project with NR Action 1.1.3 based on the reasoning of the Preserve decision: (1) lack of connection to potential, off-site habitat areas; (2) inclusion of roadways that traverse the proposed Project preserve area; and (3) alteration of Morrison Creek outside the proposed Project preserve area. The following facts are identified as grounds for potential inconsistency of the Proposed Project with Action NR 1.7.1 based on the reasoning in the Preserve decision: the Proposed Project will result in a cumulatively considerable contribution to the significant cumulative impact of loss of certain types of habitat for species in the region.

In addition to appealing the Preserve decision, the City has initiated amendments to policies and actions in its Natural Resources Element to clarify its intent under these policies (Amendments). The Natural Resources Element Amendments are being processed by the City. The Amendments include the addition of a definition of "feasible" (consistent with how that term is defined under CEQA) and revisions to the following Policies and Actions: NR Policies 1.10, 1.11, 2.2 and 3.2, and NR Actions 1.1.1, 1.1.3, and 1.7.1. The City has not adopted the Amendments at the time this document was completed. Although these are proposed Amendments, for the purposes of providing full information and disclosure in this Recirculated DEIR/Supplemental DEIS, Appendix P contains an analysis of the proposed project's consistency with these proposed Amendments. Appendix P sets forth the language of the proposed Amendments. Further information on the processing of the proposed Amendments is available for review at the City Planning Department. The proposed project would be consistent with these amended Policies and Actions (if adopted) based on facts similar to those set forth in Appendix P for the existing Policies and Actions. The Amendments would not cause a change in the conclusion that the proposed project is consistent with the Natural Resources Element of the General Plan.

Consistency with the South Sacramento County Habitat Conservation Plan

Project consistency with the SSCHCP is not required under CEQA because the SSCHCP has not been adopted. The SSCHCP is not scheduled for completion and implementation until late 2010 or early 2011, and the exact scope and content of the SSCHCP is not known at this time. Therefore, a consistency determination for the project is not appropriate at this time.

If the SSCHCP has been finalized and approved before commencement of mitigation pursuant to the MMP developed for the project, USACE, the Central Valley RWQCB, and the City may consider (if applicable) modifications to the MMP to be consistent with the SSCHCP.

Consistency with the Recovery Plan for Vernal Pool Ecosystems

The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) was released by USFWS on December 15, 2005. This plan addresses 33 species of plants and animals that occur exclusively or primarily within vernal pool ecosystems, including the federally listed vernal pool fairy shrimp and tadpole shrimp. The plan outlines recovery priorities and provides goals, objectives, strategies, and criteria for recovery. One of the overall objectives of the recovery plan is to promote natural ecosystem processes and functions by protecting and conserving intact vernal pools and vernal pool complexes. Habitat protection under the recovery plan includes the protection of the topographic, geographic, and edaphic features that support hydrologically interconnected systems of vernal pools, swales, and other seasonal wetlands within an upland matrix that together form hydrologically and ecologically functional vernal pool

complexes.

Vernal pool habitat in the southern portion of the project site is within the Mather Core Area identified in the recovery plan. Core areas are the specific sites that USFWS has deemed necessary to recover federally endangered and threatened vernal pool species or to conserve federal species of concern, based on the premise that these areas represent viable populations or will contribute to habitat connectivity and therefore increase opportunities for dispersal and genetic exchange. Recovery efforts are to be focused on the core areas within each vernal pool region. Core areas are further ranked in Zone 1, 2, or 3 in order of their overall priority for recovery. The Mather Core Area is ranked in Zone 1, meaning that it has the highest priority for recovery. Protection of Zone 1 core areas has been designated as a Priority 1 action by USFWS biologists because they believe that within each Zone 1 core area, species occurrences and suitable vernal pool habitat must be protected to prevent extinction or irreversible decline of at least one species covered in the recovery plan.

The recovery plan does not establish regulatory requirements; however, within Priority 1 areas, USFWS recommends that 85%–95% of the sustainable vernal pool habitat within the core area be protected. Furthermore, conversations with USFWS biologists about the proposed project have indicated that USFWS would attempt to achieve these preservation targets for each project site throughout the core area. Habitat to be protected includes both occupied and unoccupied suitable habitat that serves as corridors for dispersal, opportunities for metapopulation dynamics, reintroduction/introduction sites, and protection of undiscovered populations. Project consistency cannot be determined because accurate mapping is currently unavailable for the entire core area and the “core area” itself can only be projected onto project maps from the hard copies provided in the recovery plan, and because the vernal pool recovery plan is not mandated. However, USFWS would likely consider the recently released recovery plan during Section 7 consultation for the project. Mitigation currently proposed in the draft wetland MMP in Appendix Q would preserve approximately 70% of the on-site vernal pool habitat that appears to be within the Mather Core Area. However, the proposed mitigation plan would also provide preservation for 15.2 acres of vernal pool and other wetland habitats at the Cook Property, which is also within the Mather Core Area.

Summary

The loss and degradation of USACE jurisdictional vernal pools and other wetland habitats under either the Proposed Project Alternative or the High Density Alternative constitutes a substantial adverse effect on federally protected waters of the United States, including wetlands, as defined by Section 404 of the CWA. Removal of nonjurisdictional wetlands on the project site under the Proposed Project Alternative or the High Density Alternative constitutes a substantial adverse effect on sensitive natural communities as identified by DFG and on waters of the state subject to Central Valley RWQCB jurisdiction. Even with creation of the wetland preserve and implementation of a USACE-approved wetland MMP, this is considered a **direct** and **indirect significant** impact. *[Similar]*

IM

Impacts on wetlands, waters of the United States, and waters of the state would be considerably less under the Impact Minimization Alternative than under the Proposed Project Alternative or the High Density Alternative because an additional 439.2 acres of grassland habitat that supports vernal pools would be incorporated into the wetland preserve. Approximately 13.5 acres of jurisdictional wetlands would be filled under the Impact Minimization Alternative. That is substantially less than under the Proposed Project Alternative or High Density Alternative, which would directly affect approximately 21.7 acres of jurisdictional wetlands and 5.5 acres of other waters of the United States (i.e., ponds and ephemeral drainage).

Approximately 13 acres of nonjurisdictional wetlands would still be removed under the Impact Minimization Alternative, which is the same amount as under the Proposed Project and High Density Alternatives. Losses of both jurisdictional wetland and nonjurisdictional wetland acreage under the Impact Minimization Alternative would be compensated through the creation of seasonal wetlands and vernal pools within the wetland preserve. The proposed location and sizes of vernal pools to be created as mitigation would be designed to match the footprints of previously existing wetland features that are visible on historic aerial photographs of the project site. In addition, a total of 30 acres of wetland habitat would be preserved under the Impact Minimization Alternative.

Implementation of USACE-approved wetland mitigation is expected to reduce impacts on both jurisdictional and nonjurisdictional wetlands to a less-than-significant level; therefore, a **direct less-than-significant** impact would occur.

Indirect effects would be similar to those discussed above under the Proposed Project and High Density Alternatives; however, establishment of a larger wetland preserve would create a greater buffer area around some of the wetlands in the preserve, which would reduce but not eliminate disturbance to wetlands. Therefore, the Impact Minimization Alternative would result in **indirect significant** impacts. [*Lesser*]

NF

Implementation of the No Federal Action Alternative would not result in fill of jurisdictional waters of the United States, including wetlands, subject to USACE jurisdiction under the CWA. Therefore, the No Federal Action Alternative would result in **no direct** impacts on jurisdictional waters of the United States. In contrast, the Proposed Project and High Density Alternatives would result in fill of approximately 30.3 acres of jurisdictional waters of the United States, and the Impact Minimization Alternative would result in fill of approximately 13 acres of jurisdictional waters of the United States. Similar to the Impact Minimization Alternative, the No Federal Action Alternative would preserve a larger proportion of the vernal pool complex within the project site, further minimize the perimeter/area ratio reducing potential edge effects, provide a larger buffer to minimize impacts of adjacent land uses, and preserve a greater portion of upland habitat to support species that utilize both vernal pool and upland habitats and provide ecological services to vernal pool species. Unlike the other alternatives, the No Federal Action Alternative would eliminate the development of roads through the wetland preserve area. Under the Impact Minimization Alternative, however, the overall wetland preserve area would be greater (994.5 acres) than under the No Federal Action Alternative (871.5 acres) because a greater amount of surrounding upland habitat would be added to the preserve area, providing a larger buffer area around wetland habitats and providing greater habitat heterogeneity. The total wetland preserve area would be 507 acres under the Proposed Project and High Density Alternatives.

The No Federal Action Alternative could result in **indirect significant** impacts on jurisdictional waters from the discharge of stormwater runoff directly into Morrison Creek and adjacent wetlands, because this alternative does not propose an adequate storm drainage design. As discussed above in Section 2.7.4, "Drainage, Hydrology, and Water Quality," it might not be possible to construct the necessary drainage facilities in a way that would be practicable and feasible; because of this uncertainty, this indirect impact would remain **significant and unavoidable**.

The No Federal Action Alternative would result in the filling of approximately 12.9 acres of nonjurisdictional wetlands, consisting of vernal pools, seasonal wetlands, and seasonal wetland swales considered waters of the state and subject to Central Valley RWQCB regulation. Implementation of the No Federal Action Alternative constitutes the same **significant impacts** on

nonjurisdictional wetlands as the other action alternatives.

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities are proposed to avoid all wetlands and vernal pools.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect USACE jurisdictional wetlands and other waters of the United States or other wetland habitats protected by state and local regulations; thus, **no direct or indirect** impacts would occur. [*Lesser*]

Mitigation Measure 3.10-1a: Secure Clean Water Act Section 404 Permit and Implement All Permit Conditions, and Ensure No Net Loss of Wetlands, Other Waters of the United States, and Associated Functions and Values.

PP, HD, IM

Before the approval of grading and improvement plans and before any groundbreaking activity associated with each distinct project phase, the project applicant(s) for each project phase requiring the fill of wetlands or other waters of the United States or waters of the state shall obtain all necessary permits under Sections 401 and 404 of the CWA or the State's Porter-Cologne Act for the respective phase. The project applicant(s) shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with USACE, the Central Valley RWQCB, and the Natural Resources Element of the City General Plan) the acreage of all wetlands and other waters of the United States subject to USACE jurisdiction and waters of the state subject to RWQCB jurisdiction and the City General Plan that would be removed, lost, and/or degraded with implementation of project plans for that phase. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the Central Valley RWQCB, and the City, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.

To accomplish this mitigation, the project applicant(s) shall take the following steps:

- ▶ The project applicant(s) shall conduct an assessment of representative portions of the proposed wetland preserves within the Rio del Oro property and any other proposed preserve areas using the California Rapid Assessment Method (CRAM) for Wetlands. Data shall be used to evaluate current conditions and serve as a baseline for future monitoring. The following requirements apply to the assessment of the proposed wetland preserves:
 - The field assessment shall be conducted during the flowering period for plant species associated with vernal pools, typically March through June.
 - The investigation shall define and evaluate assessment areas. Such areas shall be analyzed using 17 different metrics organized into four main attributes developed for vernal pool systems (*California Rapid Assessment Method for Wetlands Depressional Field Book*, Version 5.0, September 2007). Those attributes are: buffer and landscape context, hydrology, physical structure, and biotic structure.
 - CRAM scores shall be calculated for each assessment area by adding up the component metrics of each attribute and converting the sum into a percentage of the maximum score possible for that attribute.
 - The CRAM analysis shall also include a discussion of potential stressors associated with human activities within or surrounding the wetlands assessed, which may provide

qualitative information regarding the CRAM scores.

The data collected during the initial assessment shall serve as the baseline (preproject condition), to which data collected during future monitoring efforts shall be compared.

- ▶ As part of the Section 404 permitting process, a draft wetland MMP has been developed for the project (Appendix Q) by ECORP Consulting on behalf of the project applicant(s). Before any ground-disturbing activities that would adversely affect wetlands and before engaging in mitigation activities associated with each phase of development, the project applicant(s) shall submit the draft wetland MMP to USACE, the Central Valley RWQCB, and the City for review and approval of those portions of the plan over which they have jurisdiction. Once the MMP is approved and implemented, mitigation monitoring will continue for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the performance standards identified in the approved MMP have been met, whichever is longer.

The plan shall be prepared to the satisfaction of the City, in accordance with the City's Grading and Erosion Control Ordinance, as well as to the satisfaction of those agencies with jurisdiction over all or portions of the plan.

- ▶ In conjunction with preparation and implementation of an approved wetland MMP, the project applicant(s) shall prepare and submit plans for the creation of jurisdictional waters of the United States, including wetlands, at an adequate mitigation ratio to offset the aquatic functions and values that would be lost at the project site, account for the temporal loss of habitat, and contain an adequate margin of safety to reflect anticipated success. The MMPs must demonstrate how the aquatic functions and values that would be lost through project implementation will be replaced. The habitat MMP for jurisdictional wetland features will need to be consistent with USACE's December 30, 2004, *Habitat Mitigation and Monitoring Proposal Guidelines*. The wetland MMP shall also mitigate impacts on vernal pool and seasonal wetland habitat, and shall describe specific method(s) to be implemented to avoid and/or mitigate any off-site project-related impacts. The wetland creation section of the habitat MMP shall include the following:
 - target areas for creation;
 - a complete biological assessment of the existing resources in the target areas, including a CRAM analysis conducted during the wet season to establish baseline conditions;
 - specific creation and restoration plans for each target area;
 - performance standards for success that will illustrate that the compensation ratios are met; and
 - a monitoring plan, including schedule and annual report. As requested by EPA, the monitoring plan shall incorporate CRAM analysis and the following elements:
 - intensive monitoring of hydrology early on (this can be phased out as created wetlands are achieving target standards);
 - CRAM analysis conducted annually for 5 years after any construction adjacent to assessment areas to determine whether these areas are retaining functions and values;
 - analysis of CRAM data, including assessment of potential stressors, to determine

whether any remedial activities may be necessary;

- corrective measures if performance standards are not met;
 - monitoring of vegetation communities and targeted special-status species as success criteria for hydrologic function have become established and the creation site “matures” over time;
 - reference locations for comparison to compensatory vernal pools to document success;
 - adaptive management measures to be applied if performance standards are not being met;
 - responsible parties for monitoring and preparing reports; and
 - responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.
- An operations and management plan for the Preserve shall be prepared and submitted to USACE and USFWS for review and approval. The plan shall include detailed information on the habitats present within the target area, the long-term management and monitoring of these habitats, legal protection for the target area (e.g., conservation easement, declaration of restrictions), and funding mechanism information (e.g., endowment).
- ▶ For each phase of development, including off-site project-related impacts, the project applicant(s) shall secure the permits and regulatory approvals described below and shall implement all permit conditions. For each respective phase, all permits, regulatory approvals, and permit conditions for effects on wetland habitats shall be secured before implementation of any grading activities within 250 feet of waters of the United States or wetland habitats, including waters of the state, that potentially support federally listed species. The setback may be reduced to a distance approved by the City and USFWS if a wetland avoidance plan is developed and implemented by a qualified biologist. The wetland avoidance plan must be approved by USFWS and the City and shall demonstrate that all direct and indirect impacts on wetlands will be avoided. Project phases in upland areas with no wetlands or waters of the United States within 250 feet, and no overland hydrologic flow patterns, the disturbance of which may affect such waters, may begin construction before these particular permits are obtained. Buffers around wetlands that do not support federally listed species shall be a minimum of 50 feet from the edge of these features in accordance with conditions of the National Pollutant Discharge Elimination System (NPDES) permit and associated best management practices (BMPs). See Section 3.4, “Drainage, Hydrology, and Water Quality,” of the 2006 DEIR/DEIS for a further discussion of the NPDES.
- Authorization to place dredged or fill material into waters of the United States shall be secured from USACE through the CWA Section 404 permitting process before any fill is placed in jurisdictional wetlands or other waters of the United States. USACE has determined that the project will require an individual permit. In its final stage and once approved by USACE, the proposed MMP for the project is expected to detail proposed wetland restoration, enhancement, and/or replacement activities that would ensure no net loss of aquatic functions and values in the project vicinity. Approval and implementation of the wetland MMP shall fully mitigate all impacts on jurisdictional waters of the United States, including jurisdictional wetlands. In addition to USACE approval,

approval by the City and the Central Valley RWQCB, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes, will also be required. To satisfy the requirements of the City and the Central Valley RWQCB, mitigation of impacts on nonjurisdictional wetlands beyond the jurisdiction of USACE shall be included in the same MMP. All mitigation requirements determined through this process shall be implemented before grading plans are approved. Wetland mitigation must be approved before any impacts on wetlands commence.

- Water quality certification pursuant to Section 401 of the CWA will be required before issuance of a Section 404 permit. Before construction in any areas containing wetland features, the project applicant(s) shall obtain water quality certification for the applicable phase of the project. Any measures required as part of the issuance of water quality certification shall be implemented.

If Section 401 and 404 permit requirements ensure no net loss of all wetland features, including vernal pools, and these requirements are addressed before any ground-disturbing activities, no additional mitigation will be required by the City. Written approval from the City indicating that these requirements fulfill all no-net-loss obligations must be obtained before the approval of grading or improvement plans or any ground-disturbing activities in any project phase containing wetland features.

Timing: Before the approval of grading or improvement plans or any ground-disturbing activities for any project development phase containing wetland features. The MMP must be approved before any impact on wetlands can occur. Mitigation shall be implemented on an ongoing basis throughout and after construction, as required.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; Central Valley Regional Water Quality Control Board; and City of Rancho Cordova Planning Department, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes and in compliance with the City's Grading and Erosion Control Ordinance.

NF The project applicant(s) for all project phases shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with the Central Valley RWQCB and the Natural Resources Element of the City General Plan) the acreage of all waters of the state. Waters of the state include all nonjurisdictional wetlands that would be removed, lost, and/or degraded with implementation of project plans for that phase that require permitting from the resource agencies. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to the Central Valley RWQCB and the City.

NP No mitigation measures are required.

Mitigation Measure 3.10-1b: Include in Drainage Plans All Wetlands that Remain On-Site.

PP, HD, IM, NF A model-based watershed analysis was conducted by ECORP Consulting (Appendix Q) to determine hydrologic effects on wetlands within the 507-acre preserve. The long-term viability of the preserve was analyzed using all of the following factors:

- ▶ the size of the preserve,
- ▶ the amount of watershed area required to support the wetlands within the preserve,
- ▶ the potential impacts from the construction of Rancho Cordova Parkway and Americanos

Boulevard,

- ▶ the construction of the mitigation wetlands within the preserve, and
- ▶ the watershed area needed to support the hydrologic function of each mitigation wetland.

The proposed construction design includes measures to reduce interference with the hydrology that sustains vernal pools on-site, including the use of con-span bridge systems (Exhibits 2-7 and 2-8 in the 2006 DEIR/DEIS) as natural substrate span crossings over Morrison Creek. Rancho Cordova Parkway and Americanos Boulevard would cross Morrison Creek with a clear span of the delineated wetlands within the channel bank, so no construction would occur within the channel and no fill or modification of the channel would be required.

GIS analysis of a LiDAR-derived topographic model (Appendix Q) and wetland delineation data were used to determine the watershed-to-wetland ratio (WWR) for the wetlands within the preserve. It was found that the proposed configuration of the preserve conserves almost 100% of the original watershed area and would not negatively affect the hydrologic function of the vernal pools. GIS analysis calculated the mean watershed ratio of existing vernal pools in the preserve at 7.14:1. This WWR would be maintained for all existing vernal pools, except that the WWR of one small pool (0.053 acre) would be reduced to 6.62:1. The adverse effect on this vernal pool should not be considered significant because pools of this size class require a WWR of only 3.26:1 to maintain functionality.

To minimize indirect effects on water quality and wetland hydrology, the project applicant(s) of each project phase shall include drainage plans in their improvement plans and shall submit the drainage plans to the City Public Works Department for review and approval. Before approval of these improvement plans, the project applicant(s) for all project phases shall commit to implement all measures in their drainage plans to avoid and minimize erosion and runoff into Morrison Creek and all wetlands that would remain on-site. Appropriate runoff controls such as berms, storm gates, detention basins, overflow collection areas, filtration systems, and sediment traps shall be implemented to control siltation and the potential discharge of pollutants. For runoff during construction, see Section 3.4, "Drainage, Hydrology, and Water Quality," of the 2006 DEIR/DEIS for a further discussion of the NPDES (Stormwater Pollution Prevention Plan).

The project shall result in no net change to peak flows into Morrison Creek and associated tributaries off-site or within the preserve. The project applicant(s) shall establish a baseline of conditions for drainage on-site. The baseline-flow conditions shall be established for 2-, 5-, 10-, and 20-year storm events. These baseline conditions shall be used to develop monitoring standards for the stormwater system on the project site. The baseline conditions, monitoring standards, and a monitoring program shall be submitted to USACE and the City for their approval. The engineered channel and detention basins shall be designed and constructed to ensure that the performance standards, which are described in Section 3.4, "Drainage, Hydrology, and Water Quality," of the 2006 DEIR/DEIS are met. The discharge site into Morrison Creek and associated tributaries shall be monitored to ensure that preproject conditions are being met. Stormwater runoff from Rancho Cordova Parkway would be discharged out of the wetland preserve to the north and south, and runoff from the central portion of the road would drain into a water quality treatment swale before being discharged into the wetland preserve (Exhibit 3.10-4). Runoff from Americanos Boulevard would be directed into a water quality treatment basin before being discharged into Morrison Creek (Exhibit 3.10-5). The water quality swale and treatment basins would be designed according to the *Stormwater and Water Quality Design Manual for the Sacramento and South Placer Regions* (Sacramento Stormwater Quality Partnership 2007) and shall meet the performance standards described in Section 3.4, "Drainage,

Hydrology, and Water Quality,” of the 2006 DEIR/DEIS. Corrective measures shall be implemented as necessary. The mitigation measures will be satisfied when the monitoring standards are met for 5 consecutive years without undertaking corrective measures to meet the performance standard.

Timing: Before approval of improvement and drainage plans, and on an ongoing basis throughout and after project construction, as required for all project phases.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; and City of Rancho Cordova Public Works and Planning Departments.

NP No mitigation measures are required.

Implementation of Mitigation Measures 3.10-1a and 3.10-1b would reduce **direct** significant impacts on jurisdictional wetlands and other waters of the United States and waters of the state resulting from the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level. It is assumed that once a mitigation plan has been accepted by USACE and is implemented as required (including on-site preservation, on-site creation, purchase of off-site preservation areas, and purchase of credits at a mitigation bank), the direct impacts resulting from project implementation could be mitigated by providing “no net loss” of overall wetland acreage resulting from the project, as required by USACE conditions. The project applicant(s) has already purchased 13 acres of seasonal wetland habitat at the Clay Station Mitigation Bank and an additional 22.3 acres of wetland habitat at the 160-acre Cook property. The exact ratio of on site preservation versus on-site creation is currently being determined through consultation between USACE and the project applicant(s). Under the Impact Minimization and No Federal Action Alternatives, a much larger area of vernal pool habitat would be preserved. Under the No Federal Action Alternative, no waters of the United States or wetlands subject to USACE jurisdiction under the CWA would be filled. However, **indirect** impacts would remain **significant and unavoidable** for the proposed project and all alternatives under consideration, except for the No Project Alternative, for the following reasons:

- ▶ The extent of habitat loss and degradation is extensive and contributes significantly to the loss of this habitat type in the region, as discussed below in Impact 3.10-6, “Cumulative Biological Resources Impacts.”
- ▶ The GIS watershed analysis of the LiDAR-derived topographic model indicates that hydrology of vernal pools and other wetland habitats within the proposed on-site preserve would not be adversely affected by fragmentation. However, wetlands on parcels downstream of the project site in the Morrison Creek watershed could be adversely affected by increased flows in Morrison Creek resulting from project implementation and wetlands on adjacent parcels could be adversely affected by habitat fragmentation and other indirect impacts for which no additional feasible mitigation measures are available that would be sufficient to compensate for all impacts. Even though there are existing roadways separating the project site from adjacent parcels to the north, south, and southwest, hydrological connectivity is not cut off under existing conditions because roadside ditches and culverts allow flows to pass from one site to the next. The amount of impervious surface that would exist adjacent to wetlands on neighboring parcels would be greatly increased as a result of project implementation and this could have indirect adverse effects on the hydrology of those wetlands.

**IMPACT
3.10-2**

Loss and Degradation of Sensitive Natural Communities. Implementation of the project would result in the substantial loss and degradation of riparian habitat and other natural communities considered sensitive by state and local resource agencies and requiring consideration under CEQA. Sensitive natural communities that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative include willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, and cottonwood-willow riparian forest.

Riparian habitat that would be lost as a result of implementation of the Proposed Project Alternative or the High Density Alternative includes 16 acres of willow scrub, 190 acres of mixed riparian scrub, 4 acres of willow woodland, 597 acres of cottonwood woodland, and 57 acres of cottonwood–willow riparian forest. The majority of the riparian habitat acreage on the project site consists of trees and shrubs that have reached senescence (i.e., the growth phase in which the plant proceeds from full maturity to death) and do not exhibit regeneration of riparian vegetation.

Small areas within these riparian habitats include seasonal wetlands and support healthy and vigorous riparian vegetation, but most of the riparian vegetation on the site is slowly dying off. The hydrology that supports regeneration of riparian vegetation is lacking from most of the riparian habitat areas, and the riparian vegetation is not associated with streambeds and banks as generally required for jurisdiction under Section 1602 of the California Fish and Game Code. Thus, impacts on a majority of this habitat are not considered significant. The exceptions are the willow woodland and cottonwood–willow riparian forest habitat. The cottonwood–willow riparian forest more closely resembles typical riparian habitats associated with streams. Some of the cottonwood–willow riparian forest habitat receives runoff from seasonal drainages, and several areas of pooled water, including some seasonal wetlands, were observed in this habitat type during winter 2004–2005. The 57 acres of cottonwood–willow riparian forest on the project site provide the highest habitat value and function of all of the riparian habitat types present. The 4 acres of willow woodland contained two large pools of water during surveys in January 2005 and appeared to support growth and regeneration of willows. The willow woodland does not provide the same habitat value as the cottonwood–willow riparian forest because structural diversity is lower; it is a smaller, more isolated patch; and it is not supported by seasonal drainages.

Although they are not directly associated with drainages on the project site, portions of the riparian habitats provide important functions and values for wildlife (e.g., nesting, foraging, and shelter), and DFG would likely consider these impacts on important wildlife habitat when it reviews the project as a trustee agency under CEQA. In addition, DFG would evaluate any riparian habitat associated with the historical floodplain of Morrison Creek when it evaluates project requirements resulting from issuance of a streambed alteration agreement under Section 1602 of the California Fish and Game Code for modifications to portions of Morrison Creek, including grading in the eastern open space tract to contain seasonal flows to an active channel and define the 100-year flood plain, construction of roadway crossings, and construction of an overbank detention basin in the southwest corner of the project site.

The portion of Morrison Creek downstream of the vernal pool preserve would be reconfigured to connect hydrologically with the constructed drainages and to allow for gravity flows away from the project (no pumps). About 2,000 feet of Morrison Creek would be improved to connect the creek (from where it leaves the vernal pool preserve) to the proposed main drainage corridor. The improved channel would slope westerly at approximately 1% from elevation 175 feet to 142 feet over a length of 2,000 feet. The downstream end of the improved channel would include erosion control materials (e.g., rip-rap) to reduce the velocity of erosive runoff. The runoff would then flow southwesterly in the main drainage corridor across Sunrise Boulevard at the upstream culvert, at an elevation of 135 feet. These improvements are necessary to provide sufficient runoff conveyance, to mitigate erosion, and to provide public safety for the future development. Riparian scrub, woodland, and forest communities are identified as sensitive natural communities by DFG because of their declining status statewide and because of the important habitat values they provide to both common and special-status plant and animal species. These habitat types are tracked in the CNDDDB.

Removal of riparian habitat is considered a significant impact, regardless of how the habitat was formed, because these riparian habitat types are dwindling native vegetation communities (Marr, pers. comm., 2005). Removal of functionally intact riparian habitat such as the cottonwood–willow riparian forest and the willow woodland (approximately 61 acres total) would be considered a significant impact. Goal NR.1 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of “large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors.” Those portions of the on-site riparian habitat that provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats, would be subject to this policy.

Most of the riparian habitat that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative has been subjected to varying degrees of disturbance from mining, cattle grazing, and other land uses over time. In some cases these uses may have diminished the overall value of these habitats to wildlife as well as their importance to some special-status species. However, these activities, particularly mining (which increased the site’s topographical relief and inundated low areas with water), promoted growth and expansion of these habitats on the project site in the first place. Regardless of how these habitats established, they currently provide habitat for a variety of common and special-status wildlife and possibly meet the criteria for protection under the California Fish and Game Code. Although the constructed drainage corridors would establish a substantial amount of riparian habitat from volunteer vegetation growth, the project applicant would plant and monitor, at a minimum, the amount of riparian habitat acreages required as established as mitigation through consultation with DFG as part of the streambed alteration agreement required for work on Morrison Creek. Removal of the riparian habitat present on the project site constitutes a substantial adverse effect on sensitive natural communities for purposes of CEQA. Thus, loss or disturbance of riparian habitat would be considered a **direct** and **indirect significant** impact. *[Similar]*

Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Implementation of the Proposed Project Alternative or the High Density Alternative would result in the loss of 16.5 acres of elderberry savanna. Elderberry savanna is considered a sensitive natural community as identified by DFG and is tracked in the CNDDDB because elderberry shrubs are the host plant for VELB, a species that is federally listed as threatened. To minimize potential effects on VELB, two elderberry preserve areas, designated as Open Space/Preserve, would be established on the project site (Exhibit 3.10-3). The elderberry preserves would be located on land designated under the specific plan as Open Space/Preserve and would be maintained as such in perpetuity. There are currently 38 elderberry shrubs within the two 10- and 14-acre designated preserve areas. All 16 existing elderberry shrubs in the designated western preserve area would be preserved. The 22 existing elderberry shrubs in the designated preserve area that currently contains White Rock Dump No. 1 would have to be replanted because the majority of the shrubs would be displaced because of dump closure activities. Closure of White Rock Dump No. 1 requires a cap of clean soil to a depth of 5 feet, requiring that all elderberry shrubs be removed. The elderberry shrubs located in areas proposed for development would be relocated to the elderberry preserve areas. Elderberry shrubs removed as part of the closure of White Rock Dump No. 1 would be replaced after the preserve is created. Elderberry seedlings and associated natives would be planted in the elderberry preserve areas and within the proposed drainage corridors.

Although Section 7 consultation for the project is ongoing, a draft VELB mitigation plan has been developed by ECORP Consulting (2007b)(Appendix R). Details from this draft plan, which

might be modified slightly as a result of the issuance of the final biological opinion (BO) for the project, are provided in Impact 3.10-4. Implementation of this plan, as discussed under Mitigation Measure 3.10-4b, would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. Mitigation measures in the plan include on-site preservation, transplanting, and seedling plantings within the two proposed preserves at ratios agreed upon by USFWS. Implementation of the mitigation plan with such measures (once approved) is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. *[Similar]*

IM

Riparian Habitat

Impacts on riparian habitat under the Impact Minimization Alternative would be considerably less than those under the Proposed Project Alternative or the High Density Alternative because 37.29 acres of cottonwood–willow riparian forest and 20.77 acres of cottonwood woodland located adjacent to annual grassland–vernal pool habitat would be incorporated into the wetland preserve. As discussed above, the cottonwood–willow riparian forest was determined to have the greatest overall biological value of all the riparian communities present at the project site (EDAW 2005).

The areas added to the wetland preserve under the Impact Minimization Alternative were selected because they were identified as the most biologically valuable habitat on the project site based on several habitat assessment criteria: presence/absence of special-status species, relative level of disturbance, presence/absence of permanent or temporary surface water, size of habitat area, surrounding habitat types, and continuity with other natural communities and other areas proposed for preservation (EDAW 2005). Other riparian habitat types in the project site (willow scrub, mixed riparian scrub, willow woodland, and cottonwood woodland) are not considered as biologically valuable as the cottonwood–willow riparian forest. They are more isolated from other natural communities, structural diversity within these communities is relatively low, and supporting hydrology necessary for regeneration of riparian plant species appears to be lacking from most of the sites where these riparian communities are located.

In general, riparian vegetation on the project site, with the exception of cottonwood–willow riparian forest included in the additional acreage proposed for incorporation into the wetland preserve under this alternative, consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation.

The Impact Minimization Alternative would result in impacts on willow scrub, mixed riparian scrub, and cottonwood woodland similar to the those of the Proposed Project and High Density Alternatives; however, under this alternative, 37.29 acres of the most biologically valuable riparian habitat on the project site would be added to the preserve in addition to the 12.3 acres of riparian habitat that would be created under the Proposed Project and High Density Alternatives. The combined total of riparian habitat acreage that would be restored or preserved on-site under the Impact Minimization Alternative is 49.59 acres (approximately 11.4 acres of impact would still require mitigation).

Although the total acreage of riparian habitat that would be lost would not be reduced significantly under the Impact Minimization Alternative, the majority of riparian habitat that is still functioning and regenerating would be preserved. Incorporating this riparian community into the wetland preserve would increase the overall biological value of the preserve as a whole: It would provide a larger contiguous habitat patch, trees and shrubs that provide wildlife cover and

nesting and roosting opportunities for raptors and other bird species would be adjacent to foraging habitat, and there would be greater buffer areas between urban development and wildlife habitat. Therefore, **direct** impacts would be **less than significant**.

Indirect effects on habitat quality include isolation of remaining riparian habitat from other wooded open space, reduction of foraging habitat adjacent to nesting and roosting sites, and disturbances from urbanization adjacent to the north, east, and west. Potential disturbances include intrusion by domestic animals, noise, and light disturbances that could deter raptor nesting, and introduction of invasive species from adjacent residential landscaping. Although less than under the Proposed Project and High Density Alternatives, **indirect** impacts on sensitive habitats would be considered **significant** under this alternative. [*Lesser*]

Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Impacts on 16.5 acres of elderberry savanna and scattered elderberry shrubs throughout the site would remain the same under the Impact Minimization Alternative as under the Proposed Project and High Density Alternatives. A VELB mitigation plan similar to that developed for the Proposed Project and High Density Alternatives would be developed for this alternative. As discussed above, implementation of the mitigation plan (once approved by USACE) is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. [*Similar*]

NF

Riparian Habitat

The No Federal Action Alternative would result in similar direct impacts on riparian habitat as the Proposed Project and High Density Alternatives. A small amount of riparian habitat that is within the 250-foot wetland buffer would be preserved under this alternative, including 2.93 acres of cottonwood–willow riparian forest and 2.15 acres of cottonwood woodland. A much larger portion of the cottonwood–willow riparian forest habitat (37.29 acres) would be preserved under the Impact Minimization Alternative than under the No Federal Action Alternative. Preservation of a total of 5.08 acres of riparian habitat and creation of 12.3 acres of riparian habitat would partially compensate for the loss of biologically valuable riparian habitat under this alternative. Removal of the riparian habitat present on the project site constitutes a substantial adverse effect on sensitive natural communities for purposes of CEQA. Thus, loss or disturbance of riparian habitat would be considered a **direct** and **indirect significant** impact. [*Similar*]

Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Impacts on 16.5 acres of elderberry savanna and scattered elderberry shrubs throughout the site would remain the same under the No Federal Action Alternative as under the Proposed Project, High Density, and Impact Minimization Alternatives. Section 10 consultation with USFWS would be required for potential impacts on VELB habitat (i.e., elderberry shrubs), and the project applicant(s) would be required to develop a habitat conservation plan, or participate in the SSCHCP if available, to mitigate impacts on elderberry shrubs. Implementation of an independent habitat conservation plan, once approved by USFWS, or participation in the SSCHCP, is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. [*Similar*]

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would avoid riparian habitat and other sensitive natural communities.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect riparian habitats or other sensitive natural communities; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure 3.10-2a: Secure and Implement Section 1602 Streambed Alteration Agreement.

PP, HD, IM A Section 1602 streambed alteration agreement from DFG will be required for construction affecting the bed and bank of Morrison Creek. As a condition of issuance of the streambed alteration agreement, the project applicant(s) for all project phases shall prepare a habitat MMP. The draft wetland MMP shall address impacts on the stream channel of Morrison Creek and shall include mitigation of impacts on riparian habitats to the satisfaction of DFG, subject to limitations on its authority set forth in Fish and Game Code Section 1600 et seq. The MMP shall include performance standards and success criteria to ensure that mitigation habitat would be successfully maintained.

Any conditions of issuance of the streambed alteration agreement shall be implemented as part of project construction activities that adversely affect the bed and bank and current and historic riparian habitat associated with Morrison Creek that is within the area subject to DFG jurisdiction. The agreement shall be executed by the project applicant(s) and DFG before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the bed and bank of Morrison Creek and its associated current and historic riparian habitat.

Timing: Before the approval of grading or improvement plans or any construction activities (including clearing and grubbing) that affect the bed and bank or current and historic riparian habitat associated with Morrison Creek.

Enforcement: California Department of Fish and Game.

NF No mitigation measures are required because the No Federal Action Alternative would not result in alteration to the bed or bank of Morrison Creek. Therefore, a streambed alteration agreement from DFG would not be needed as it would under the action alternatives.

NP No mitigation measures are required.

Mitigation Measure 3.10-2b: Preserve, Restore, or Create Riparian Habitat at Satisfactory Ratio to Fulfill Local Planning Framework Requirements.

PP, HD, IM Goal NR.1, Policy NR 1.9 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of “large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors.” Portions of the on-site riparian habitat such as the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub have been determined to provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats. To implement Goal NR.1, a habitat MMP shall be developed and implemented to replace the 57 acres of cottonwood willow

riparian woodland and 4 acres of willow scrub at no-net-loss acreage to preserve the overall habitat functions and values. Elements of the habitat MMP may include habitat preservation on-site, enhancement of on-site riparian habitat types, or enhancement or protection of habitat off-site. The specific ratios of habitat lost to habitat created shall be determined by the City in consultation with DFG as a trustee agency protecting the wildlife resources of the state. The ratios shall be consistent with the City's policy and shall be adequate to protect and preserve the diverse resources in the City.

Any conditions of issuance of the riparian MMP shall be implemented as part of project construction activities that adversely affect riparian habitat. The riparian habitat MMP shall be developed by the project applicant(s) and submitted to the City before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the cottonwood willow riparian woodland and willow scrub on-site. The cottonwood-willow riparian forest habitat and willow woodland shall be either preserved or replaced on- or off-site on a no-net-loss basis because it provides functioning riparian habitat that is self-sustaining at the present time. If preservation of this on-site habitat type is chosen, the hydrology that supports this habitat must also be preserved to ensure the long-term viability of this habitat type.

The remainder of the riparian habitat on the project site consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation. Because of the poor quality of the majority of the riparian habitat on the project site, the project mitigation for this riparian habitat shall be limited to the replacement and/or restoration of its current function and value (which consists of nesting and foraging habitat for raptors and other birds, as well as foraging habitat and shelter for numerous common wildlife species) as determined acceptable to the City in consultation with DFG as a trustee agency.

Timing: Before the approval of grading or improvement plans or any construction activities and before removal of any riparian vegetation as required for any project phase.

Enforcement: City of Rancho Cordova Planning Department in consultation with California Department of Fish and Game.

NF No mitigation measures are required because the No Federal Action Alternative would not result in adverse effects on riparian habitat in addition to those habitats protected and addressed under City policy.

NP No mitigation measures are required.

All of the riparian habitat present on the project site would be removed under the Proposed Project and High Density Alternatives. Most of the riparian habitat developed as a result of human alteration to the natural landscape, is likely not self-sustaining, and may not contain all the functions and values of naturally occurring, self-sustaining riparian habitat. However, the removal of riparian habitat under these alternatives would still constitute a significant loss of a sensitive habitat type that currently serves as habitat for numerous wildlife species. In its current (draft) version, the wetland mitigation plan currently being developed by ECORP Consulting on behalf of the project applicant(s) shall be expanded to address riparian and stream impacts to the satisfaction of the City and DFG, subject to limitations on its authority set forth in Section 1600 et seq. of the California Fish and Game Code. Although it is anticipated that a plan to compensate for the loss of some of the riparian habitat would be developed, the project would still result in a substantial net loss of cottonwood- and willow-dominated communities that currently provide habitat for nesting and foraging raptors, neotropical migrant land birds, and other birds, as well as other common wildlife species. Therefore, with implementation of

Mitigation Measures 3.10-2a and 3.10-2b, the direct and indirect impacts under the Proposed Project and High Density Alternatives would remain **significant and unavoidable**. Under the Impact Minimization Alternative, direct impacts on riparian habitat would be reduced to a **less-than-significant** level with implementation of an adequate and successful mitigation plan, and the most biologically valuable riparian habitat would be preserved. Indirect impacts on riparian habitat under the Impact Minimization Alternative would result from isolation of remaining habitat from other similar habitat, reduction of adjacent foraging habitat, urbanization adjacent to north, east, and west and disturbances from domestic animals, light and noise disturbances, and potential introduction of invasive plant species from adjacent landscaping. The Impact Minimization Alternative would also result in a substantial net loss of cottonwood- and willow-dominated communities that currently provide habitat for nesting and foraging raptors, neotropical migrant land birds, and other birds, as well as other common wildlife species, even though the most valuable of these habitats would be preserved. Indirect impacts, therefore, would remain **significant and unavoidable**.

**IMPACT
3.10-3**

Loss of Oak Woodland and Individual Oak Trees. *Project implementation would result in the loss of 3 acres of oak woodland habitat and would include the removal of 47 individual native oak trees with a diameter at breast height (dbh) of 6 inches or greater.*

PP, HD, IM,
NF

Under the Proposed Project Alternative, the High Density Alternative, or the Impact Minimization Alternative, 3 acres of oak woodland and a total of 47 native oak trees that qualify for protection or mitigation under the County Tree Ordinance (because they have a dbh of 6 inches or greater) would be removed from the project site.

The City has not yet established a tree ordinance under its current General Plan and defers to the County Tree Ordinance when addressing impacts on trees within the City’s sphere of influence (Amrhein, pers. comm., 2005). Goal NR.4 of the Natural Resources Element of the City General Plan calls for protection and preservation of tree resources. City Policies NR 4.1 and NR 4.2 call for preservation and protection of native oak habitats and native oak and landmark trees. Action NR 4.1.1 calls for establishment of guidelines that require avoidance of oak habitat to the maximum extent feasible and mitigation that would result in preservation of in-kind habitat within the City’s sphere of influence where avoidance of oak habitat is not feasible. Action NR 4.1.2 calls for adoption and maintenance of a City Tree Preservation Ordinance, but as mentioned above, such an ordinance has not yet been developed by the City.

Without proper mitigation, removal of oak woodland habitat and individual oak trees would conflict with local ordinances, specifically the County Tree Ordinance. Therefore, a **direct and significant** impact would occur.

No indirect impacts on oak woodland, native oak trees, or other native tree species are expected to occur as a result of implementation of the Proposed Project Alternative, No Federal Action Alternative, the High Density Alternative, or the Impact Minimization Alternative. *[Similar]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would avoid the oak woodland habitat and most of the individual native trees on the project site.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect oak woodland or individual native trees; thus, **no direct or indirect** impacts would occur. *[Lesser]*

Mitigation Measure 3.10-3: Perform Tree Survey and Avoid or Replace Native Oak Trees and Other Native Trees Scattered Throughout the Project Site.

PP, HD, IM,
NF

Before the approval of any development in areas identified to contain trees, the City shall require that a determinate survey of tree species and size be performed. If any native oaks or other native trees of 6 inches or greater dbh, multitrunk native oaks or native trees of 10 inches or greater dbh, or nonnative trees of 18 inches or greater dbh that have been determined by a qualified professional to be in good health are found to exist in the development area, such trees shall be avoided if feasible. If such trees cannot feasibly be avoided, the project applicant(s) for all project phases containing trees shall implement one of the following measures:

- ▶ All such trees that will be removed or otherwise damaged by project implementation shall be replaced at an inch-for-inch ratio. A replacement tree planting plan shall be prepared by a qualified professional or licensed landscape architect and shall be submitted to the City for approval before removal of trees; OR
- ▶ The project applicant(s) shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City by a method comparable to an inch-by-inch replacement. The mitigation plan shall be subject to City approval.
- ▶ The tree planting or mitigation plan shall include monitoring requirements and success criteria, as determined by a qualified professional, to ensure that replacement trees survive to maturity and can be reasonably expected to persist for the normal life span of the particular species being monitored. Monitoring of replacement trees shall continue for a period of five years following planting and trees that do not survive or meet the success criteria shall be replaced.

Loss of trees mitigated through implementation of mitigation measures associated with riparian habitat impacts shall not be subject to this mitigation measure. If the City adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.

Timing: Before the approval of any development in any project phase that contains areas that have been identified to contain trees.

Enforcement: City of Rancho Cordova Planning Department.

NP

No mitigation measures are required.

Implementation of Mitigation Measure 3.10-3 would reduce the significant impact of loss of oak woodland and individual oak trees under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

IMPACT
3.10-4

Loss and Degradation of Habitat for Special-Status Wildlife. *Implementation of the project would result in the loss and degradation of habitat for a number of special-status wildlife species, including vernal pool invertebrates, VELB, western spadefoot toad, Swainson's hawk, and other raptors.*

PP, HD

Development under the Proposed Project Alternative or the High Density Alternative would result in an increase in development and human population that would result in adverse effects on a number of special-status wildlife species. Special-status wildlife listed under ESA that could be substantially affected by the Proposed Project and High Density Alternatives include vernal pool fairy shrimp, vernal pool tadpole shrimp, conservancy fairy shrimp, and VELB. Significant

impacts on Swainson's hawk, listed under CESA as threatened, could also result. Impacts on these five listed species would be considered significant and are discussed in detail below. Impacts on nesting and foraging habitat for special-status raptors would also be considered significant. Impacts on all other special-status wildlife species would be considered less than significant.

Federally Listed Vernal Pool Invertebrates

Suitable habitat for three federally listed vernal pool invertebrates is present on the project site. The vernal pool fairy shrimp and vernal pool tadpole shrimp have been identified in vernal pools located along the outer edges of the project site. Potential habitat for conservancy fairy shrimp is also present on the project site. Vernal pool tadpole shrimp and conservancy fairy shrimp are federally listed as endangered. Vernal pool fairy shrimp is federally listed as threatened.

The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) was released by USFWS on December 15, 2005. This plan features 33 species of plants and animals that occur exclusively or primarily within vernal pool ecosystems, including the federally listed vernal pool fairy shrimp and tadpole shrimp. The plan outlines recovery priorities and provides goals, objectives, strategies, and criteria for recovery. One of the overall objectives of the recovery plan is to promote natural ecosystem processes and functions by protecting and conserving intact vernal pools and vernal pool complexes. Habitat protection under the recovery plan includes the protection of the topographic, geographic, and edaphic features that support hydrologically interconnected systems of vernal pools, swales, and other seasonal wetlands within an upland matrix that together form hydrologically and ecologically functional vernal pool complexes.

Vernal pool habitat in the southern portion of the project site is within the Mather Core Area identified in the recovery plan. Core areas are the specific sites USFWS has deemed necessary to recover federally endangered and threatened vernal pool species or to conserve federal species of concern, based on the premise that these areas represent viable populations or will contribute to habitat connectivity and therefore increase opportunities for dispersal and genetic exchange. Recovery efforts are to be focused on the core areas within each vernal pool region. Core areas are further ranked in Zone 1, 2, or 3 in order of their overall priority for recovery. The Mather Core Area is ranked in Zone 1, meaning that it has the highest priority for recovery. Protection of Zone 1 core areas has been designated as a Priority 1 action by USFWS biologists because they believe that within each Zone 1 core area, protection of species occurrences and suitable vernal pool habitat is necessary to prevent extinction or irreversible decline of at least one species covered in the recovery plan.

Core areas were identified as Zone 1 in cases where they were occupied by very narrowly endemic species (i.e., few populations and narrow or disjunct distributions that are known to be, or are likely to be, genetically or ecologically distinct) or where the core area supported a high diversity of the species covered by the plan. The Mather Core Area is listed as a Priority 1 area because of the presence of Sacramento Orcutt grass and a "high number of rare species in the area." USFWS's recovery plan lists Sacramento Orcutt grass, slender Orcutt grass, vernal pool fairy shrimp, and vernal pool tadpole shrimp as listed species in the area. Although the recovery plan does not establish regulatory requirements, within Priority 1 areas, USFWS recommends that 85%–95% of the sustainable vernal pool habitat within the core area be protected. Furthermore, conversations with USFWS biologists about the project have indicated that USFWS would be attempting to achieve project-by-project attainment of the 85%–95% preservation target throughout the core area. Habitat to be protected includes both occupied and unoccupied suitable habitat that serves as corridors for dispersal, opportunities for metapopulation dynamics, reintroduction/introduction sites, and protection of undiscovered populations. Project consistency

cannot be determined because accurate mapping is currently unavailable for the entire core area and the “core area” itself can only be projected onto project maps from the hard copies provided in the recovery plan, and because the vernal pool recovery plan is not mandated. However, USFWS would likely consider the recently released recovery plan during Section 7 consultation for the project.

The project would preserve approximately 70% of the vernal pools within that portion of the core recovery area that is located within the project site, which is below the recovery plan goal of 85%–95% preservation. The proposed on-site wetland preserve would connect to a preserve area to the east that is shown in the City General Plan and is within the agency-proposed conservation area identified in *A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area* (June 2004). The project applicant, in consultation with USFWS, has also secured an additional property—known as the Cook Property—and 13 acres of wetland habitat at the Clay Station Mitigation Bank for additional mitigation of impacts on vernal pools. The 160-acre Cook Property is also within the Mather Recovery Plan Core Area and contains an additional 22.3 acres of wetland habitat, including 15.2 acres of vernal pools and seasonal wetland and seasonal wetland swale habitat. The northeast portion of the Clay Station Mitigation Bank is within the Cosumnes/Rancho Seco Core Area. The site currently supports both vernal pool fairy shrimp and tadpole shrimp, is connected to other preserves, exhibits wetland functions and values similar to the wetlands to be filled at Rio del Oro, and has been authorized by the Mitigation Banking Review Team to sell mitigation credits in a service area that includes the Rio del Oro project site.

Implementation of the Proposed Project or High Density Alternative would permanently remove approximately 21.7 acres of jurisdictional wetland and 12.9 acres of nonjurisdictional wetland considered potential habitat for federally listed vernal pool invertebrates. In addition to the direct removal of potential habitat, the Proposed Project and High Density Alternatives are expected to have indirect impacts on potential habitat for federally listed vernal pool invertebrates (see Impact 3.10-1 for a description of potential indirect impacts on vernal pools and other wetland habitats).

The Proposed Project and High Density Alternatives include a 507-acre wetland preserve that would provide some level of protection to a portion of the project site that contains the highest quality and density of vernal pools and seasonal wetlands, as discussed under Impact 3.10-1, “Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State.” Wetland acreages within the wetland preserve that provide potential habitat for federally listed vernal pool invertebrates include 20.4 acres of vernal pools, 2.5 acres of seasonal wetland swale, and 3.3 acres of seasonal wetland. In addition, the Proposed Project and High Density Alternatives include creation of approximately 17.9 acres of vernal pools that could provide habitat for federally listed vernal pool invertebrates in the future, as well as off-site mitigation consisting of 22.3 acres at the Cook Property and 13 acres at Clay Station Mitigation Bank. The purpose of establishing the wetland preserve is to preserve and enhance existing wetland function and values; however, there are no assurances that this goal can be achieved, and given the large anticipated increase in urbanization on the adjacent land, indirect impacts on potential habitat for federally listed vernal pool invertebrates are expected. Therefore, implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on federally listed vernal pool invertebrates.

Valley Elderberry Longhorn Beetle

VELB is federally listed as threatened, although in October 2006 its “delisting” was proposed. It is not known whether the species occurs on the project site, but because the site is within the range of the species and suitable habitat is present (e.g., elderberry shrubs), it is assumed that the

species could be present. A total of 329 elderberry shrubs were identified on the project site in 2000 (Gibson & Skordal 2000a). A total of 292 elderberry shrubs would be directly affected by project implementation because they would be removed from their present locations. Exit holes, which may have been created by the beetle and suggest the presence of the beetle, were found on 42 of the shrubs (ECORP Consulting 2007b).

Although Section 7 consultation for the project is ongoing, an applicant-proposed *Draft Valley Elderberry Longhorn Beetle Mitigation Plan* has been developed by ECORP Consulting (2007b) and is included in Appendix R. The draft mitigation plan is subject to review and approval by USFWS. The following details are provided from this draft plan, which might be modified slightly when the final BO for the project is issued.

Two elderberry preserve areas, designated as Open Space/Preserve, would be established on the project site (Exhibit 3.10-3). There are currently 37 elderberry shrubs within the two 10- and 12-acre designated preserve areas. All 19 existing elderberry shrubs in the designated western preserve area would be preserved. The 18 existing elderberry shrubs in the designated eastern preserve area would also be retained. These areas would be fenced off during construction with the recommended 100-foot buffer zone marked with colored pin-flags. The 292 elderberry shrubs located in areas proposed for development would be relocated to the elderberry preserve areas. In addition, 2,997 elderberry seedlings and 3,869 associated natives would be planted in the elderberry preserve areas and within the proposed drainage corridors. Furthermore, 154.2 VELB credits would be purchased at a USFWS-approved mitigation bank. The two preserves would be monitored over 10 consecutive years. The two preserve areas would be permanently fenced, protected by deed restrictions and conservation easements, and managed as wildlife habitat in perpetuity. A minimum of two field surveys would be conducted between February 14 and June 30 by a qualified biologist and a written report prepared and submitted for each of the 10 consecutive years.

Although the presence of VELB on the project site is not known, relocating the shrubs to land designated as Open Space/Preserve would not be expected to result in any measurable benefit to the species because the conservation areas would eventually be surrounded by development and isolated from larger areas of potential habitat. Furthermore, there are no assurances that the open space/preserve land would promote the long-term viability of the habitat. Therefore, as long as VELB remains a species considered threatened under the ESA, implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on VELB. [*Similar*]

Swainson's Hawk and Other Raptors

Swainson's hawk, a species state listed as threatened, is one of a number of raptors expected to occur (could potentially nest and forage) on the project site. Swainson's hawk is the only listed raptor species expected on the project site, but all raptors and their nests are protected under the California Fish and Game Code and some are considered California species of special concern. The Swainson's hawk is a migratory species that can be found in the project area during the nesting season. It has not been documented nesting on the project site, but suitable nesting habitat is present. Other raptors that could nest on the project site include American kestrel, red-tailed hawk, red-shouldered hawk, white-tailed kite, northern harrier, western burrowing owl, great horned owl, and barn owl. The project site also provides potential foraging habitat for raptors that winter in the project vicinity. Raptors that are known to occur or expected to occur on the project site during winter months, but that are expected to be absent during the breeding season, include prairie falcon, sharp-shinned hawk, Cooper's hawk, ferruginous hawk, merlin, and short-eared owl.

Implementation of the Proposed Project Alternative or the High Density Alternative would have a substantial adverse effect on both foraging and nesting habitat for raptors. The 1,950 acres of grassland habitat present on the project site is considered foraging habitat for raptors.

Implementing the Proposed Project Alternative or the High Density Alternative would not only remove foraging and nesting habitat; it would also fragment the remaining habitat in the vicinity of the project site. Large raptors generally require large areas of suitable foraging habitat. Thus, implementation of the Proposed Project Alternative or the High Density Alternative could eventually lead to the permanent displacement of some raptors from the project site. Therefore, the Proposed Project and High Density Alternatives would result in **direct** and **indirect significant** impacts on Swainson's hawk and other raptors. [*Similar*]

Western Spadefoot Toad

Western spadefoot toad, a California species of special concern, breeds in vernal pools and other suitable seasonal wetlands during wet winter conditions and aestivates in adjacent grassland habitat after the pools have dried. This species has not been documented on the project site, but because suitable habitat is present and this species is known to occur in the project vicinity, it is assumed that western spadefoot could be present.

Implementation of the Proposed Project or High Density Alternative would permanently remove approximately 21.7 acres of jurisdictional wetland and 12.9 acres of nonjurisdictional wetland that provide potential habitat for the western spadefoot toad. In addition to the direct removal of potential habitat, the Proposed Project and High Density Alternatives would be expected to have indirect impacts on potential habitat for western spadefoot toad. Indirect impacts on potential habitat for western spadefoot toad could include mortality related to an increase in vehicular use, and exposure to herbicides, pesticides, and other toxins. In addition, if present, western spadefoot toads could be killed during construction activities.

Under the Proposed Project and High Density Alternatives, the proposed 507-acre wetland preserve would preserve 20.4 acres of vernal pools, 2.5 acres of seasonal wetland swale, and 3.3 acres of seasonal wetland considered as potential habitat for western spadefoot toad. In addition, the Proposed Project and High Density Alternatives include creation of approximately 17.9 acres of vernal pools that could provide habitat for western spadefoot toad in the future, as well as off-site mitigation consisting of 22.3 acres at the Cook Property and 13 acres at the Clay Station Mitigation Bank. However, given the large anticipated increase in urbanization on the adjacent land and the potential for direct mortality during project implementation (if present on site), implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on western spadefoot toad.

IM

Impacts under the Impact Minimization Alternative would be reduced substantially from those under the Proposed Project and High Density Alternatives because the size of the wetland preserve would be increased to 994.5 acres under this alternative, as opposed to 507 acres under the Proposed Project and High Density Alternatives. The total wetland acreage in the wetland preserve would increase from 26.63 acres to 42.53 acres. Direct impacts on federally listed vernal pool invertebrates and western spadefoot toad would be reduced because land that is proposed under the Proposed Project and High Density Alternatives for single-family residential and other land uses resulting in the removal of existing habitat would be incorporated into the wetland preserve. The highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would receive additional protection because the width of the buffer between urban development and the most important vernal pool and seasonal wetland habitat would increase. Impacts on VELB, Swainson's hawk, and other raptors would also be reduced, but to a lesser extent. Although impacts would be reduced, implementation of

the Impact Minimization Alternative would still result in **direct** and **indirect significant** impacts. *[Lesser]*

NF Impacts under the No Federal Action Alternative would be reduced substantially from those under the Proposed Project and High Density Alternatives because the size of the wetland preserve (designated as Natural Resources) would be increased to 871.5 acres under this alternative, as opposed to 507 acres under the Proposed Project and High Density Alternatives. The total wetland acreage in the wetland preserve would increase from 26.63, under the Proposed Project and High Density Alternatives, acres to 56.63 acres under the No Federal Action Alternative. Direct impacts on federally listed vernal pool invertebrates and western spadefoot toad would be reduced because vernal pool habitat on land that is proposed under the other action alternatives for single-family residential and other land uses resulting in the removal of existing habitat would be incorporated into the Natural Resources area designated as wetland preserve under the Proposed Project, High Density, and Impact Minimization Alternatives. The highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would receive additional protection because this alternative provides a 250-foot buffer between urban development and the most important vernal pool and seasonal wetland habitat. The Impact Minimization Alternative would provide a larger wetland preserve area (994.5 acres) overall than the No Federal Action Alternative, but the total amount of wetland habitat preserved would increase by 14.1 acres under this alternative. Impacts on VELB under the No Federal Action Alternative would be similar to those under the Proposed Project and High Density Alternatives because elderberry shrubs on the project site are located primarily outside of the areas that would be included in the Natural Resources area. Under the No Federal Action Alternative a lesser (but still substantial) amount of nesting and foraging habitat for Swainson's hawk and other raptors would be removed than under the Proposed Project and High Density Alternatives because of the increased size of the designated Natural Resources area. The Impact Minimization Alternative would preserve 123 acres more of nesting and foraging habitat than the No Federal Action Alternative. Implementation of the No Federal Action Alternative would result in direct and **indirect significant** impacts. *[Lesser]*

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. The *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) and the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) contain mitigation measures that would reduce potentially significant impacts on VELB habitat and Swainson's hawk habitat to a less-than-significant level.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect sensitive species or habitats; thus, **no direct or indirect** impacts would occur. *[Lesser]*

Mitigation Measure 3.10-4a: Secure Take Authorization for Federally Listed Vernal Pool Invertebrates and Implement Permit Conditions.

PP, HD, IM No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a BO has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including conservation and minimization measures) intended to be completed before on-site construction. Conservation and minimization measures shall include preparation of supporting documentation

describing methods to protect existing vernal pools during and after project construction, a detailed monitoring plan, and reporting requirements.

A revised draft wetland MMP was developed by ECORP Consulting in September 2007 and is the applicant's proposed plan for addressing project impacts on habitats that potentially support federally listed vernal pool invertebrates. The draft MMP, included in Appendix Q to this document, is subject to review and approval by the appropriate regulatory agencies. Project implementation would result in the fill of 33.9 acres of habitat that could potentially support federally listed vernal pool invertebrates. This habitat consists of 17.5 acres of vernal pools, 4.2 acres of seasonal wetland swale, and 12.2 acres of seasonal wetlands. Indirect impacts on an additional 2.2 acres of vernal pools would also result from project implementation.

Proposed mitigation in the draft MMP includes a combination of on-site preservation and compensatory mitigation (i.e., creation of vernal pools), as well as off-site mitigation through purchase of a 160-acre property, known as the Cook Property, and credit purchase in the Clay Station Mitigation Bank. The Cook Property mitigation proposal would preserve 21.7 acres of existing wetland habitat, including 2.7 acres of vernal pools, 2.6 acres of seasonal wetland swale, and 9.9 acres of seasonal wetland within the Mather Core Recovery Area that could potentially support federally listed branchiopods. Surveys in the vicinity of the Cook Property have identified vernal pool fairy shrimp and vernal pool tadpole shrimp, and the property is contiguous with other conservation properties that support vernal pool habitat. The Clay Station Mitigation Bank would provide compensatory mitigation in the form of 13 acres of created vernal pool habitat that has been monitored for approximately 10 years and currently supports both vernal pool fairy shrimp and vernal pool tadpole shrimp. Proposed on-site mitigation consists of designation of a 507-acre wetland preserve in the southern portion of the project site. A total of 20.4 acres of existing vernal pools would be retained in the proposed preserve and an additional 17.9 acres would be restored and created in the preserve under the proposed MMP. The proposed preserve also contains 2.5 acres of seasonal wetland swale, 3.3 acres of seasonal wetland, 0.6 acre of pond, and 1.9 acres of ephemeral drainage. All of these features, as well as that portion of Morrison Creek that is within the 507-acre wetland preserve, would be preserved. In addition, the proposed draft MMP proposes creation of 20.8 acres of seasonal wetlands within the drainage parkways that would be developed for the project.

In summary, the project would directly or indirectly affect 36.1 acres of potential vernal pool branchiopod habitat; the proposed MMP would preserve 41.4 acres of potential habitat and would create 51.6 acres of potential habitat. This would result in a preservation ratio of 1.15:1 and a compensatory mitigation ratio of 1.43:1, which would result in no net loss of vernal pool or seasonal wetland habitat that could potentially support federally listed vernal pool invertebrates. The details of the MMP are still being developed and reviewed by USACE, and the September 2007 draft is not the final, approved version.

The project applicant(s) shall complete and implement a habitat MMP that will result in no net loss of acreage, function, and value of affected vernal pool habitat. The final habitat MMP shall be consistent with guidance provided in *Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office, California* (USFWS 1996) and the SSCHCP (if adopted) or shall provide an alternative approach that is acceptable to the City, USACE, and USFWS and accomplishes no net loss of habitat.

The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. A watershed analysis of the hydrologic function of the wetland preserve

was conducted by ECORP Consulting on behalf of the project applicant(s) (Appendix Q). GIS analysis of a hydrologic model created from LiDAR-derived topography and wetland delineation data was used to determine the minimum watershed area required to support hydrologic function of the wetlands within the preserve. It was found that the proposed configuration of the preserve would conserve almost 100% of the original watershed area and would not negatively affect the hydrologic function of existing vernal pools. The land used to satisfy this mitigation measure shall be protected through a conservation easement acceptable to USACE, the City, and USFWS.

The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve acreage of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat at a ratio approved by USFWS at the conclusion of the Section 7 consultation. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.

A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, "Drainage, Hydrology, and Water Quality," of the 2006 DEIR/DEIS for the details of BMPs to be implemented.

Timing: Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the mitigation plan, BO, and/or BMPs.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; and City of Rancho Cordova Planning Department.

NF

The project applicant(s) for all project phases shall obtain an incidental take permit under Section 10(a) of ESA. No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a BO has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including all conservation and minimization measures). Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction.

Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on federally listed vernal pool invertebrates, or participate in the SSCHCP, if available. The project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that shall compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat conservation plan shall be consistent with the goals of the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) and must be approved by USFWS.

The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a fee title or conservation easement acceptable to the City and USFWS.

The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation in support of a lesser indirect impact distance. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.

A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, "Drainage, Hydrology, and Water Quality," of the 2006 DEIR/DEIS for the details of BMPs to be implemented.

Timing: Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the habitat conservation plan, BO, and/or BMPs.

Enforcement: U.S. Fish and Wildlife Service and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Mitigation Measure: Implement Mitigation Measures 3.10-1a and 3.10-1b.

PP, HD, IM Mitigation Measures 3.10-1a and 3.10-1b are discussed above under Impact 3.10-1.

NF, NP No mitigation measures are required.

Mitigation Measure 3.10-4b: Obtain Incidental Take Permit for Impacts on Valley Elderberry Longhorn Beetle.

PP, HD, IM No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including conservation and minimization measures, intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.

Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 7 consultation process with USFWS, but shall be a minimum of "no net loss." Although Section 7 consultation for the project is ongoing, a draft VELB mitigation plan

has been developed by ECORP Consulting (Appendix R). Because the proposed MMP is in draft form and a final BO has not been issued by USFWS, the proposed MMP may be modified in the future. Details from this draft plan are provided under the impact discussion above. The plan includes creation of two on-site preserve areas, transplanting of all existing shrubs to the on-site preserve areas, planting of 2,997 elderberry seedlings in the proposed preserve areas and drainage parkways, and purchase of 154.2 credits in a USFWS-approved mitigation bank. Implementation of this plan would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. A copy of the USFWS-approved mitigation plan shall be submitted to the City before the approval of any grading or improvement plans or any ground-disturbing activities within 100 feet of VELB habitat for all project phases.

Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.

Timing: Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the mitigation plan and/or BO.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; California Department of Fish and Game (if VELB delisted); and City of Rancho Cordova Planning Department.

NF

As long as VELB remains a species protected under ESA, the project applicant(s) shall obtain an incidental take permit under Section 10(a) of ESA for VELB. No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including all conservation and minimization measures. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.

Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on VELB, or participate in the SSCHCP, if available. If participation in the SSCHCP is not available or not chosen, the project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that will compensate for the loss of VELB habitat. Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 10(a) consultation process with USFWS, but shall be a minimum of “no net loss.” Based on the current (dated) knowledge of the number of shrubs on-site and the latest VELB preservation guidelines, it is expected that approximately 3,088 seedlings would need to be planted over an area of approximately 25 acres to fulfill VELB mitigation requirements and no net loss of habitat.

Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The

mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.

Timing: Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the habitat conservation plan and/or BO.

Enforcement: California Department of Fish and Game (if VELB delisted), U.S. Fish and Wildlife Service, and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Mitigation Measure 3.10-4c: Conduct Preconstruction Surveys for Nesting Raptors and, if Found, Establish Appropriate Buffers.

PP, HD, IM, NF To mitigate impacts on Swainson's hawk and other raptors (including burrowing owl) for all project phases, the project applicant(s) shall retain a qualified biologist to conduct preconstruction surveys and to identify active nests on and within 0.5 mile of the project site and active burrows on the project site. The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction for all project phases. To the extent feasible, guidelines provided in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) shall be followed. If no nests are found, no further mitigation is required.

If active nests are found, impacts on nesting Swainson's hawks and other raptors shall be avoided by establishment of appropriate buffers around the nests. No project activity shall commence within the buffer area until a qualified biologist confirms that any young have fledged and the nest is no longer active. DFG guidelines recommend implementation of 0.25- or 0.5-mile buffers, but the size of the buffer may be adjusted if a qualified biologist and the City, in consultation with DFG, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.

If active burrows are found, a mitigation plan shall be submitted to the City for review and approval before any ground-disturbing activities. The City shall consult with DFG. The mitigation plan may consist of installation of one-way doors on all burrows to allow owls to exit, but not reenter, and construction of artificial burrows within the project vicinity, as needed. If active burrows contain eggs and/or young, no construction shall occur within 50 feet of the burrow until young have fledged. Once it is confirmed that there are no owls inside burrows, these burrows may be collapsed.

Timing: Before the approval of grading and improvement plans, before any ground-disturbing activities, and during project construction as applicable for all project phases.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Mitigation Measure 3.10-4d: Prepare and Implement a Swainson's Hawk Mitigation Plan.

PP, HD, IM,
NF

The project applicant(s) for all project phases shall implement one of the following measures:

- ▶ Before the approval of grading and improvement plans or before any ground-disturbing activities, whichever occurs first, the project applicant(s) shall preserve, to the satisfaction of the City, suitable Swainson's hawk foraging habitat to ensure 1:1 mitigation of habitat value for Swainson's hawk foraging habitat lost as a result of the project, as determined by the City after consultation with DFG and a qualified biologist.

The 1:1 habitat value shall be based on Swainson's hawk nesting distribution and an assessment of habitat quality, availability, and use within the City's planning area. If specific data for Rancho Cordova's Swainson's hawk habitat are not available at the time that this mitigation measure is being implemented, the mitigation ratio shall be consistent with the 1994 DFG Swainson's Hawk Guidelines included in the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California*. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area and within Sacramento County. The City, after consultation with DFG, will determine the appropriateness of the mitigation land.

Before approval of such proposed mitigation, the City shall consult with DFG regarding the appropriateness of the mitigation. If mitigation is accomplished through conservation easement, then such an easement shall ensure the continued management of the land to maintain Swainson's hawk foraging values, including but not limited to ongoing agricultural uses and the maintenance of all existing water rights associated with the land. The conservation easement shall be recordable and shall prohibit any activity that substantially impairs or diminishes the land's capacity as suitable Swainson's hawk habitat.

The project applicant(s) shall transfer said Swainson's hawk mitigation land, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and DFG named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, after consultation with DFG. The City, after consultation with DFG and the Conservation Operator, shall approve the content and form of the conservation easement. The City, DFG, and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to assure compliance with the terms of the easement.

The project applicant(s), after consultation with the City, DFG, and the Conservation Operator, shall establish an endowment or some other financial mechanism that is sufficient to fund in perpetuity the operation, maintenance, management, and enforcement of the conservation easement. If an endowment is used, either the endowment funds shall be submitted to the City to be distributed to an appropriate third-party nonprofit conservation agency, or they shall be submitted directly to the third-party nonprofit conservation agency in exchange for an agreement to manage and maintain the lands in perpetuity. The Conservation Operator shall not sell, lease, or transfer any interest of any conservation easement or mitigation land it acquires without prior written approval of the City and DFG.

If the Conservation Operator ceases to exist, the duty to hold, administer, manage, maintain, and enforce the interest shall be transferred to another entity acceptable to the City and DFG. The City Planning Department shall ensure that mitigation habitat is properly established and is functioning as habitat by conducting regular monitoring of the mitigation site(s) for the first 10 years after establishment of the easement. OR

- ▶ The project applicant(s) may participate in a future City Swainson's Hawk Foraging Habitat Ordinance (once adopted) as an alternative to the measure above. OR
- ▶ The project applicant(s) may participate in a future habitat conservation plan (once adopted) as an alternative to the above measures.

Timing: Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that would affect Swainson's hawk foraging habitat.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Mitigation Measure: Implement Mitigation Measures 3.10-1a, 3.10-1b, and 3.10-4a to Reduce Impacts on Western Spadefoot Toad.

PP, HD, IM, NF Measures 3.10-1a and 3.10-1b are discussed above under Impact 3.10-1. Mitigation Measure 3.10-4a was discussed previously under this impact (Impact 3.10-4). These measures would ensure no net loss of western spadefoot habitat.

Timing: Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that contains vernal pools or other seasonal wetland habitats.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measures 3.10-4a, 3.10-4b, 3.10-4c, 3.10-4d, and 3.10-1a and 3.10-1b (listed previously) would lessen significant direct and indirect impacts on special-status wildlife resulting from the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives; however, this impact would remain **significant and unavoidable** because the removal of approximately 3,300 acres of potential habitat for special-status wildlife and the associated fragmentation of surrounding potentially suitable habitat cannot be fully mitigated. The amount of habitat lost and the resulting fragmentation of habitat preserved could potentially contribute to the decline of vernal branchiopods, VELB, Swainson's hawk, and western spadefoot toad populations in the region. This decline would constitute a substantial adverse effect under CEQA.

The project by itself, however, would not be expected to cause a decline in numbers of any of these species to the point where their regional populations were no longer viable, which is the threshold stated in the City's General Plan Policy.

Impacts on special-status wildlife species could be fully mitigated only through a combination of habitat preservation and restoration in the vicinity of the project site. Parcels of similar habitat quality are currently present in the project vicinity, but these parcels would be of lesser value following development of the project because of the effects of habitat fragmentation and secondary impacts related to the project. Moreover, there would be a net loss of approximately 3,300 acres of potential habitat for special-status species regardless of the

acreage preserved. Therefore, fully compensating for the impact by preserving existing habitat in the project vicinity is infeasible. The mitigation does include elements of habitat creation and enhancement that would increase the habitat value of preserved lands so that mitigation habitat could be of greater value than habitat lost and degraded, but there is not sufficient undeveloped land in the project vicinity to offset the effects of habitat fragmentation on special-status species, and thus, fully mitigate the impact.

IMPACT
3.10-5

Loss and Degradation of Special-Status Plants and Habitat for Potential Special-Status Plants.

Implementation of the project would result in direct and/or indirect impacts on three populations of Greene's legenera and in the removal of vernal pool grassland, seasonal wetland, and riparian habitat on the project site that have the potential to support special-status plant species.

PP, HD

Three populations of Greene's legenera were identified at the project site during protocol-level surveys conducted by ECORP Consulting in spring 2003. One population is located within the proposed wetland preserve, but it could potentially be affected by either removal or habitat modification from construction of Rancho Cordova Parkway, which would modify the east side of the vernal pool where this population occurs. The other two populations occur within seasonal wetland habitat along a portion of Morrison Creek that would be diverted into a constructed drainage channel. These populations would be directly affected (i.e., removed) by the construction of the drainage channel. Late-season special-status plant surveys were conducted by ECORP Consulting in June and July 2006. The targeted special-status species included Sacramento Orcutt grass, slender Orcutt grass, and Sanford's arrowhead. No special-status plants were observed on-site during the late-season field surveys (ECORP Consulting 2006).

The special-status plant surveys were conducted in accordance with the *USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), as well as the guidelines contained in the *CNPS Inventory of Rare and Endangered Plants of California*, sixth edition (CNPS 2001). Protocol-level plant surveys are typically considered valid for 5 years.

Other potential indirect impacts on Greene's legenera include impacts caused by pollutants transported by urban runoff and other means, impacts caused by installation of piping and drainage and swale culverts, changes in vegetation as a result of changes in land use and management practices, impacts on site hydrology from the construction of Rancho Cordova Parkway, and the introduction of invasive species or noxious weeds from the surrounding development.

As habitat areas become more fragmented, roads and other development encroach into habitat areas, and nonnative plants are used for landscaping in areas of new development, there are generally increased opportunities for the introduction of invasive plant species and noxious weeds. As a result, habitat for Greene's legenera in the wetland preserve could be diminished compared to its current condition. It is assumed that no intrusion of humans or domestic animals would occur because the wetland preserve would be fenced. This **indirect** impact is considered **significant**. *[Similar]*

No other special-status plant populations were found during the protocol-level surveys, so no additional direct impacts on special-status plant species are expected to result. Additional indirect impacts on special-status plants resulting from loss of suitable habitat such as vernal pool grassland, seasonal wetland, and riparian habitat are addressed through Mitigation Measures 3.10-1a, 3.10-1b, 3.10-1b, 3.10-2a, and 3.10-2b, which address loss of sensitive habitats.

Loss of Greene's legenera through either direct removal or habitat modification constitutes a substantial adverse effect on a species identified as a special-status species in local or regional

plans, policies, or regulations. Thus, loss of Greene's legenera would be considered a **direct significant** impact. *[Similar]*

IM

Although a greater percentage of habitat that could support populations of Greene's legenera would be preserved under the Impact Minimization Alternative than under the Proposed Project and High Density Alternatives, impacts on the three populations that were documented during ECORP Consulting's spring 2003 surveys would be the same because plans for construction of Rancho Cordova Parkway and the constructed drainage parkway are the same under all three alternatives. Loss of Greene's legenera through either direct removal or habitat modification constitutes a substantial adverse effect on a species identified as a special-status species in local or regional plans, policies, or regulations. Thus, loss of Greene's legenera would be considered a **direct significant** impact. *[Similar]*

The potential for indirect impacts on Greene's legenera would be reduced under the Impact Minimization Alternative because the width of the buffer between urban development and the habitat where Greene's legenera populations were documented would increase. **Indirect** impacts are **potentially significant**, but to a lesser degree than under the Proposed Project and High Density Alternatives. *[Lesser]*

NF

The No Federal Action Alternative would result in no impacts on special-status plants or habitat for potential special-status plant species because known populations of and suitable habitat for Greene's legenera would be preserved under this alternative. In contrast, significant impacts on Greene's legenera would result from implementation of all of the other three action alternatives, but could be mitigated to a less-than-significant level by implementing avoidance, seed collection, and relocation measures in an MMP. *[Lesser]*

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing conditional use permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual implementation permits expected to be issued by the City. Mining activities would not affect any special-status plants because these activities would not occur in areas that support special-status plant populations or special-status plant habitat.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect special-status plants; thus, **no direct** or **indirect** impacts would occur. *[Lesser]*

Mitigation Measure 3.10-5: Incorporate Measures to Protect Greene's Legenera in the Mitigation Monitoring Plan.

PP, HD, IM

Direct impacts on the population of Greene's legenera located within the wetland preserve shall be avoided to the maximum extent feasible.

An MMP for Greene's legenera is being developed on behalf of the project applicant(s) by ECORP Consulting. Before the approval of grading plans or any ground-breaking activity within 250 feet of any Greene's legenera population, the mitigation plan shall be submitted to the City for review and approval. The plan shall be submitted concurrently to DFG and USFWS for review and comment, and the City may consult with these entities before approval of the plan. The plan is required to maintain viable plant populations on-site and shall include avoidance measures for the existing population to be retained and mitigation measures for the populations to be directly affected. Possible avoidance measures include fencing of the population before construction and exclusion of project activities from the fenced-off areas, and construction monitoring by a qualified botanist to keep construction crews away from the population. Indirect impacts (i.e., changes in hydrology) shall be minimized by placing culverts to the vernal pool

where this population occurs, if necessary. Possible mitigation for the two populations of Greene's legenera that would be removed during construction of the drainage parkway includes the collection of seeds from the existing populations and inoculation of the collected seeds into existing or compensatory vernal pools within the wetland preserve.

The mitigation plan proposes that the best option for the successful germination of seeds would be to inoculate existing pools that are similar in size and depth and hydration period, and with similar associated species as the pools that currently support Greene's legenera. Mitigation for the populations of legenera proposed to be directly affected shall commence before the approval of any plans for, or any ground-breaking activities near, the locations of such legenera populations. Monitoring of the existing population of Greene's legenera and the seeded populations shall be conducted in conjunction with monitoring of vernal pools for a minimum period of 5 years, as specified in Mitigation Measure 3.10-1.

Timing: Before the approval of grading or improvement plans or any ground-breaking activity within 250 feet of any Greene's legenera population, including grubbing and clearing, for any project development phase. Ongoing monitoring shall occur for a minimum of 5 years following the completion of all construction activities.

Enforcement: City of Rancho Cordova Planning Department.

NF, NP No mitigation measures are required.

Implementation of Mitigation Measure 3.10-5 would reduce the significant impact from direct impacts and potential indirect impacts on Greene's legenera under the Proposed Project, High Density, and Impact Minimization Alternatives to a **less-than-significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative impacts discussed in this section are based on existing, proposed, planned, and approved projects within the City's planning area. For purposes of this section, the geographic extent of cumulative impacts on vernal pools and biological resources associated with wetlands and other waters of the United States includes the planning area for the City General Plan and surrounding areas that support biological resource values and functions similar to those of the project site. This area is expanded from the area described in the 2006 DEIR/DEIS, which considered impacts only from projects within the extent of the Laguna geologic formation; it now also includes areas in the project vicinity that are beyond the Laguna Formation but support similar biological resources.

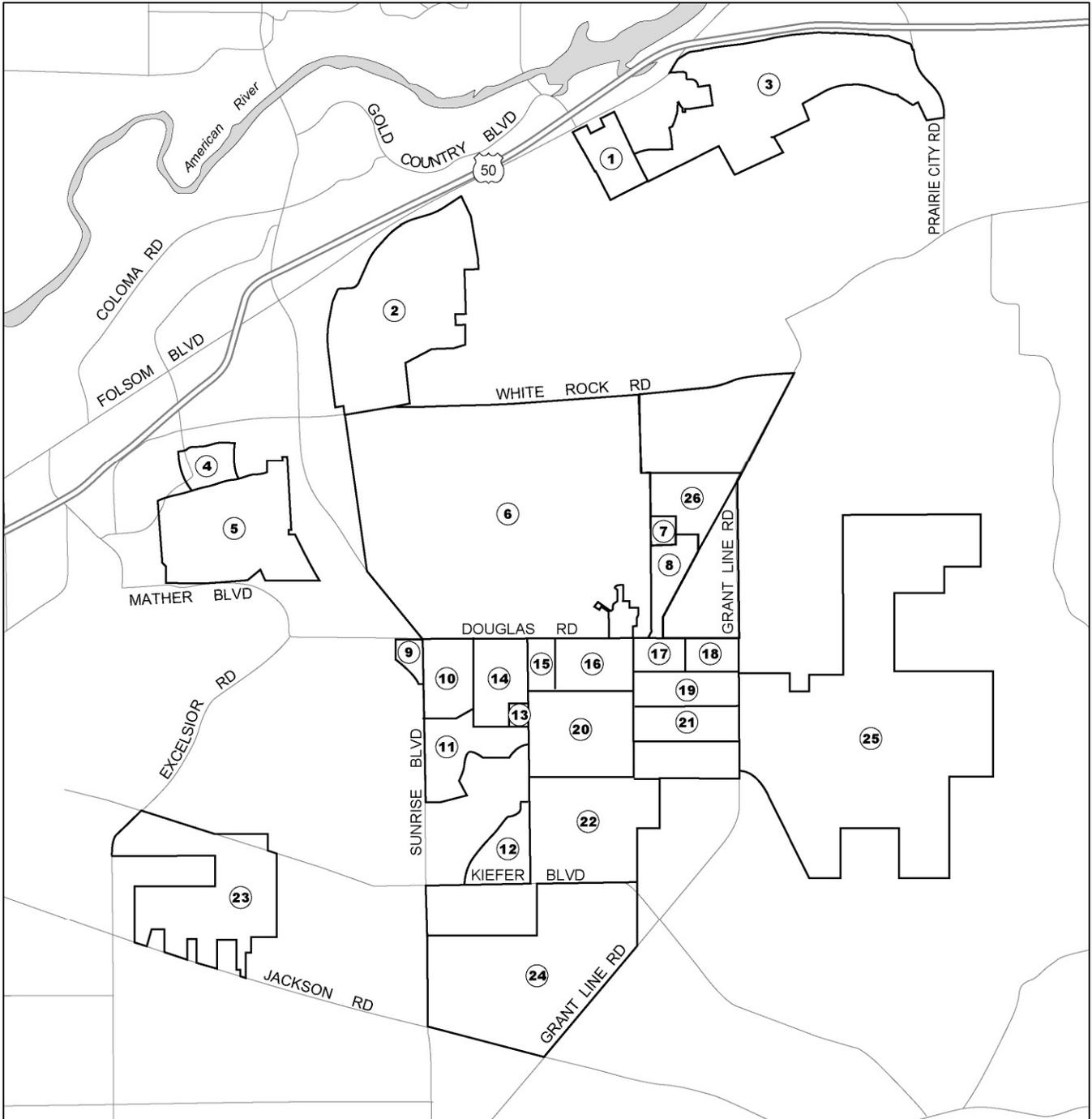
Impacts

IMPACT 3.10-6

Cumulative Biological Resources Impacts. *Implementation of the project together with past, present, and reasonably foreseeable future projects would result in a cumulatively significant loss of biological resources in the region. The project's incremental contribution to this significant cumulative impact is **cumulatively considerable**.*

Many projects near the Rio del Oro planning area have been implemented recently or are in various stages of planning and entitlement (see Exhibit 3.10-6). Some have already resulted in negative impacts on wetlands and other waters of the United States. Table 3.10-4 summarizes the impacts of the surrounding projects that were considered in the cumulative impact analysis for the Rio del Oro project.

Table 3.10-4 Wetlands at Projects in the Vicinity of Rio del Oro		
Project	Total Wetlands Acreage (Approximate)	Affected Acres of Waters of the United States (Approximate)
Anatolia	Initial wetland acreage unknown. Additional 0.217 acre of waters of the United States for Phase I of Sunrise Douglas Road Improvements, per December 21, 2004, request.	Application not yet submitted.
Arista del Sol	17.41	13.88
Cordova Hills	63 ^a	18 ^a
Capital Village	Wetlands not found	None
Douglas 98	3.91	3.91
Douglas 103	5.40	1.98
Excelsior Estates	48	42
Glenborough at Easton and Easton Place	23.894	5.76
Grantline 208	11.19	No net loss
Heritage Falls	6.85	6.85
Mather East	2.68	0.19
Mather Field	138 ^a	30 ^a
Montelena	16.66	10.605
North Douglas	5.36	6.17
North Douglas II	4.42	0.627
Sunridge Lot J	2.99	2.99
Sunridge Park	1.82 plus 1.06 acres of pond	1.8 directly, 1.58 indirectly
The Preserve	20.24	15.65
Villages of Zinfandel	1.15	1.15.
Waegell (The Arboretum)	116.89	Application not yet submitted.
Westborough	22.72 (20 acres are isolated wetlands)	Application not yet submitted.
Total (approximate, not including projects that have not submitted applications)	513.644	161.56 plus 1.58 indirect
Notes: ^a Taken from U.S. Environmental Protection Agency comment letter on the 2006 DEIR/DEIS (dated February 15, 2007). Source: Data provided by City of Rancho Cordova and USACE		



LEGEND

- | | | | |
|---------------------------|--------------------|--------------------|-----------------------|
| 1. Easton Place at Easton | 8. North Douglas I | 15. SunRidge Lot J | 22. SunCreek |
| 2. Westborough at Easton | 9. Mather East | 16. SunRidge Park | 23. Excelsior Estates |
| 3. Glenborough at Easton | 10. Anatolia I | 17. Douglas 103 | 24. Waegell Villages |
| 4. Capital Village | 11. Anatolia II | 18. Douglas 98 | 25. Cordova Hills |
| 5. Villages of Zinfandel | 12. Anatolia III | 19. Grantline 208 | 26. Heritage Falls |
| 6. Rio del Oro | 13. Anatolia IV | 20. The Preserve | |
| 7. North Douglas II | 14. Montelena | 21. Arista Del Sol | |

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Source: City of Rancho Cordova 2007, Adapted by EDAW 2007

Projects in the Vicinity of Rio del Oro

EXHIBIT 3.10-6



As indicated in Table 3.10-4, based on the data currently available, cumulative losses of vernal pools and other wetlands within the City's planning area and surrounding areas supporting similar biological resources have been and are expected to be substantial. In addition, road improvements and roadway construction within the City's planning area are estimated to result in direct impacts on an additional 25.1 acres of vernal pool and other wetland habitats that are not included in Table 3.10-4. These impacts were analyzed at a programmatic level in the City General Plan EIR (City of Rancho Cordova 2006b), and mitigation for these impacts is included in the Natural Resources Element of the General Plan.

The Rio Del Oro project would result in degradation of wildlife habitat by developing new facilities that, when combined with other habitat impacts occurring from development within the region, would result in significant cumulative impacts. Despite the implementation of project-specific biological resource mitigation measures identified previously in this section, there would be a temporal loss of wetlands and other waters of the United States during implementation of mitigation until performance standards are met. Within the project site there are 37.9 acres of existing vernal pools. Of these, 46% (17.5 acres) would be permanently destroyed by project implementation. It is estimated that 75% to 90% of the historic California vernal pool habitat has been lost. The project would contribute to a cumulative loss of vernal pools in the region. The project would also result in the permanent loss (fill) of 12.8 acres of wetlands and other waters of the United States other than vernal pools and 10.5 acres of other seasonal wetland habitats that are not waters of the United States (i.e., isolated wetlands). In addition to the direct loss of habitat, the project, in conjunction with the existing plans in the surrounding area, would result in the fragmentation of the regional wetland resources. Therefore, vernal pools and other wetlands would be confined to small geographic locations and would be more vulnerable to the effect of habitat fragmentation and other indirect impacts.

The project would result in the loss of nearly 1,500 acres of annual grassland habitat, which serves as foraging habitat for raptors, including Swainson's hawk. This loss would contribute significantly to the regional loss of this biological resource. Removal of large expanses (867 acres) of woodland and riparian habitat from the project site would contribute substantially to the regional loss of these habitat types that provide important functions and values to special-status plant and animal species. Woodland and riparian habitat within the region is rapidly declining and a large portion has already been lost to development and other land use modifications.

As determined in the City's General Plan EIR, land use as designated in the City's General Plan could result in direct impacts to 28,543.5 acres of habitat that are occupied or potential habitat for listed (special-status) plant or wildlife species (City of Rancho Cordova 2006b). This acreage represents the maximum acreage of habitats that could be directly affected; actual direct impacts may be less depending on the ultimate design of specific development plans, application of General Plan policies on a project specific basis, and project specific compliance with state and federal agency requirements (City of Rancho Cordova 2006b). Table 3.10-5 lists the acreage of each habitat type within the City planning area that could be directly affected by implementation of land uses designated in the City's General Plan for all habitats that also occur at the Rio Del Oro project site. This table is included to demonstrate the overall potential loss of habitat in the City's General Plan planning area. All of the habitats listed in table 3.10-5 provide potential habitat for special-status species as identified in the column "special-status species supported." Each specific project plan within the General Plan planning area that has the potential to cause direct or indirect impacts on the environment would be subject to project-specific CEQA review and appropriate mitigation measures to avoid, minimize, and compensate for impacts on habitats and associated special-status species would be developed on a project by project basis. The table shows, nonetheless, that development of the City's General Plan Land Use Map is expected to result in the loss and

modification of large amounts of these habitat types in the region. Due to its size and large acreage of habitats that would be lost as a result of project implementation, the Rio Del Oro project would contribute substantially to this regional loss.

When considered collectively, the existing, proposed, planned, and approved projects in the area would result in fragmentation of habitats and lead to the decline of regional biological resources including special-status species. These impacts are considered cumulatively **significant**.

Table 3.10-5 Acreage of Potential Special-Status Species Habitats that Could be Directly Affected by the City of Rancho Cordova General Plan Land Use and that also Occur at the Project Site		
Habitat Type	Listed Species Supported	Total Acreage in General Plan Planning Area
Vernal Pool Grassland	Swainson's Hawk	20,728.8
Grassland	Swainson's Hawk	637.5
Vernal Pool	Bogg's Lake hedge-hyssop Ahart's dwarf rush Legenere Pincushion navarretia Slender Orcutt grass Sacramento Orcutt grass Sanford's arrowhead Vernal pool fairy shrimp Vernal pool tadpole shrimp California linderiella	630.3
Cottonwood Woodland	Swainson's Hawk	131.6
Mixed Riparian Scrub	Bank swallow Swainson's Hawk	21.0
Notes: Source: Data provided by City of Rancho Cordova in 2007		

Mitigation Measures

Implementation of Mitigation Measures 3.10-3 and 3.10-5 would reduce the direct project-specific impacts on protected trees and special-status plants to a less-than-significant level. Implementation of Mitigation Measures 3.10-1a, 3.10-1b, 3.10-2, 3.10-4a, 3.10-4b, 3.10-4c, and 3.10-4d would reduce but not fully eliminate impacts on biological resources. Even with implementation of the proposed mitigation and regional enforcement of the USACE "no-net-loss" standard, the value of the region as it relates to the long-term viability of these resources would be substantially diminished. The Rio del Oro project would result in a cumulatively considerable incremental contribution to significant cumulative biological resources impacts, including the loss and degradation of sensitive habitats, habitat for special-status wildlife, and habitat for special-status plants; and loss/displacement of special-status wildlife. On a cumulative level, the direct and indirect impacts on biological resources would be considered **significant and unavoidable**.

3.10.4 RESIDUAL SIGNIFICANT IMPACTS

Implementation of the mitigation measures described in this section would reduce significant effects on sensitive biological resources, but not to less-than-significant levels. Impacts on sensitive habitats and special-status wildlife would remain significant and unavoidable even with implementation of the proposed wetland preserve and open-space preserve because habitat fragmentation and permanent loss/displacement of special-status wildlife would result.

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None.

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